For future updates, please refer to the MDT website at http://www.mdt.mt.gov/. Once at the site, click on Doing Business tab OR click on http://www.mdt.mt.gov/business/contracting.shtml/. Under the Specifications heading (on the left-hand side of the page), click on Supplements.

The following Subsections have been revised since April 1, 2006. Current revisions are noted by an * before the date on this index.

SUPPLEMENTAL SPECIFICATIONS TO MONTANA
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
2006 EDITION

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MONTANA SUPPLEMENTAL SPECIFICATIONS

The following are supplementary or amendatory to the 2006 Edition of the Standard Specifications for Road and Bridge Construction insofar as they apply to this contract.

101.01 GENERAL (DUAL UNITS) Page 1 3-1-07

Add the following paragraph after the first paragraph:

The Standard Specifications are written in dual units with English units first, followed by Metric units in parenthesis. The contract will be in one of the two units. All submittals and documentation provided to the Department must be in English or Metric units as shown in the contract.

101.03 DEFINITIONS (BID DOCUMENTS) Page 2 10-7-10

Rescind and replace the following definition:

BID DOCUMENTS

Any writings, working papers, computer printouts, computer generated and/or computer stored information, electronically stored information, charts, schedules of any kind (e.g., CPM, bar chart, etc.), and any data compilations, computerized or not, used by the Bidder to determine the bid submitted for a contract. "Bid Documents" includes, but is not limited to, Bidder equipment internal rates for ownership, Bidder overhead rates, labor rates, cost coding, equipment and manpower loading of activities, efficiency or productivity factors, scheduling calculations, review or analysis of the site of the work, analysis of how the work should be performed, arithmetic extension, worksheets used to prepare the bid (identifying by name and edition any software programs used to prepare them), and all quotations to the extent that these items were used in formulating and preparing the amount of the bid. "Bid Documents" also includes identification of all manuals used by the Bidder in preparing the bid for this contract, referenced by title, author, edition, date, and page or section number. The term does not include bid documents provided by the Owner (e.g., plans, specifications, etc.) for use by the Bidder in preparation of the bid proposal

101.03 DEFINITIONS (BOARD OF CONTRACT APPEALS) Page 3 2-10-11

Change the title to the following:

CLAIMS REVIEW BOARD

101.03 DEFINITIONS (CONTRACTOR) Page 4 10-8-09

Change the title to the following:

CONTRACTOR OR PRIME CONTRACTOR

Add the following sentence at the end of the first paragraph:

When used in the specifications, Prime Contractor has the same meaning as Contractor.

101.03 DEFINITIONS (OFF-HIGHWAY VEHICLE) Page 6 2-11-10

Add the following definition:

OFF-HIGHWAY VEHICLE

A vehicle that exceeds legal weight limits, or cannot be legally registered or licensed to operate on public roadways.

101.03 DEFINITIONS (JOINT VENTURE) Page 6 10-8-09

Add the following definition:

JOINT VENTURE
An agreement between two or more persons or entities to be jointly and severally responsible for the performance of a contract.

101.03 DEFINITIONS (ROADSIDE DEVELOPMENT) Page 8 2-19-09

Add the following paragraph at the end of ROADSIDE DEVELOPMENT:

Unless specified different in the contract, the following are the roadside areas:

- Area 1. Areas with slopes of 3:1 and flatter.
- Area 2. Areas with slopes steeper than 3:1.
- Area 3. A 15.0 foot (4.5 meter) wide strip adjacent and parallel to the finished pavement, along both roadsides.

101.03 DEFINITIONS Page 10 3-1-07

Rescind the second sentence of the definition for WORKING DAY (that begins with "Working days will be …") and replace with the following:

Working days will be charged from November 16 through April 15 for all days construction activities occur that have any impact on the traveling public, exclusive of emergency and maintenance repairs to the project, when the time requirements under Subsection 104.05.2 are met.

102.07 BIDDING REQUIREMENTS Page 13 10-1-06

Add the following paragraph at the end of 102.07 (C) (2) Proposal Guarantee:

An electronic bid bond may be filed in lieu of completing the paper Bid Bond area of the Proposal Bid form. Submit on the most current Department-provided hard copy Electronic Bid Bond Form CPB_102_07.

102.08 REJECTION OF BID PROPOSALS Page 14 5-1-08

Delete the last sentence under part E that reads "(See Subsection 102.10 (B) (6))."

102.08 REJECTION OF BID PROPOSALS Page 14 10-1-06

Delete 102.08 (A) starting with "Failure to complete ….." and replace with the following:

A. Failure to complete the appropriate bid bond form, or Proposal, provided by the Department, by all specified persons, including notaries, in the correct blocks.

Delete 102.08 (G) starting with "Bidder fails to …" and replace with the following:

G. Bidder fails to properly complete and sign, by original signatures, on the most current Department-furnished Proposal and appropriate bid bond form. Stamped signatures are not authorized.

102.10 DELIVERY AND PUBLIC OPENING OF PROPOSALS Page 15 2-10-11

Delete item 102.10(B)(4). (that begins with "Joint Venture Bids"…)

102.11 WITHDRAWAL OF PROPOSALS Page 15 3-1-07

Delete the words "or telegram" from the first sentence.

102.15 VENUE Page 16 2-19-09

Rescind 102.15 and replace with the following:

In the event of any dispute concerning a project, whether over its advertisement, bidding, award, execution, or claim, any litigation filed by or against the Department has venue only in Lewis and Clark County.

102.17 PUBLIC WORKS CONTRACTS Page 16 12-18-08

Add the following Subsection:

102.17 PUBLIC WORKS CONTRACT
Department projects under these specifications are public works contracts. Projects under these specifications require Contractors to provide all resources necessary to complete the project, fully complying with its plans and specifications. They are not "sales", nor are they sales of "goods", as those terms are used in Montana's Uniform Commercial Code (UCC). The UCC, particularly its Chapter 2, does not apply to these projects, and the contractor concurs with that by submitting its bid.

103.07 EXECUTION AND APPROVAL OF CONTRACT Page 17 2-10-11

Delete item C. (That begins with "A copy of…")

Rescind and replace Item A. (That begins with "The signed contract") and replace with the following:

A. The signed contract; and

103.07 EXECUTION AND APPROVAL OF CONTRACT Page 17 8-1-06

Rescind part D under the third paragraph and replace with the following:

D. Possessing a current special fuel user permit issued under 15-70-302 MCA, or a letter stating that no special fuel will be used.

103.08 FAILURE TO EXECUTE CONTRACT Page 18 2-10-11

Delete the first sentence of the first paragraph (that begins with "Upon failure to …") and replace with the following:

Upon failure to execute the contract and file acceptable bonds within 20 calendar days after receipt of the contract, under Section 18-1-204 MCA, the award will be canceled and the proposal guaranty forfeited.

103.09 BID DOCUMENTS Page 18 10-7-10

Rescind and replace Subsection 103.09 with the following:

103.09 BID DOCUMENTS

103.09.1 General
The following requirements apply when submission of bid documents is required by the contract. The Department agrees to safeguard the bid documents, and all information contained therein, against disclosure to the fullest extent permitted by law.

103.09.2 Bid Documentation Inventory Affidavit and Escrow Agreement
Use the most current Department Form CSB103_09A "Bid Documentation Inventory Affidavit" with the bid documentation. Follow all directions for the bid documentation listed on Form CSB103_09A.
Use the most current Department Form CSB103_09B "Escrow Agreement" when completing the bid documents escrow procedure. Follow all directions for the escrow procedure listed on Form CSB103_09B. Modified versions of the "Escrow Agreement" provided by the escrow agent may be used with written approval by the Construction Engineering Services Engineer.

The forms must be signed by an authorized agent for the bidder. These forms are available at the following web page: http://www.mdt.mt.gov/publications/forms.shtml#contract

103.09.3 Escrow of Bid Documents

Once identified as the apparent low bidder on a contract requiring submission of bid documents, submit all bid documents to an approved escrow agent located in Helena, Montana. Provide written notification including copies of the Bid Documentation Inventory Affidavit and the Escrow Agreement to the Contract Plans Bureau within seven business days, including the day of bid opening. The copy of the Escrow Agreement submitted to the Contract Plans Bureau must contain signatures from the Escrow Agent and representative of the bidder. The Department will review the documents and return a copy of the Escrow Agreement with a signature of a Department representative to the Escrow Agent.

An approved escrow agent includes any business such as a banking institution or other bonded storage facility which provides a deposit box, vault, or other secure accommodation.

Place the bid documents and completed Bid Documentation Inventory Affidavit in the container provided by the escrow agent. Clearly label the face of the container “Bid Documents” and include the bidder’s name, the date of submittal, the contract name, and the contract number.

If the apparent low bidder, for whatever reason, is not awarded the contract, the apparent second low bidder will be told that it has seven business days from the date of its verbal notification (followed immediately in writing) to comply with the above requirements.

103.09.4 Bid Responsiveness

The copies of the Bid Documentation Inventory Affidavit and Escrow Agreement submitted as part of the escrow notification will be reviewed for completeness and responsiveness. If the forms are incomplete or are not submitted, the bid will be considered non-responsive. The second low, responsive responsible bid will then be reviewed and the bidder will be required to meet the above requirements.

103.09.5 Release of Bid Documents to the Department

The bid documents in escrow are and will remain the property of the Contractor unless a Certified Claim is filed by the Contractor or litigation or arbitration is initiated under the contract. In the event that the Contractor submits a Certified Claim or litigation or arbitration is initiated under the contract; the bid documents included in the escrow become the property of the Department for its use, specifically including use in preparing for and conducting of all claims, disputes, arbitration or litigation. Failure to submit all bid documents as defined in Subsection 101.03 and the Bid Documentation Inventory Affidavit as required, or failure to include the items indicated by the Bidder on the Bid Documentation Inventory Affidavit in the documents that are placed in escrow, will be a material breach of the contract, is a failure to comply with a condition precedent to filing a claim or lawsuit, acts as a total and final waiver of all claims or disputes involving matters that would have been included (e.g., claims of delay, changed site conditions, loss of productivity, etc.), and subjects the Contractor to action under ARM 18.3.101 et seq.

Upon the Department’s receipt of the bid documents, the Contractor will be notified and must have a representative present during the opening, unless the representation is waived. Failure to appear at the date and time designated for the opening will be considered a waiver.

103.09.6 Release of Bid Documents to the Contractor

Except as provided for in Subsection 103.09.5, the bid documents will remain in the storage location during the life of the contract. After a certificate of completion has been issued for the contract, the Department will notify the escrow agent and the Contractor that the bid documents may be released. It is the Contractor’s responsibility to obtain necessary signatures and retrieve the bid documents from the Escrow Agency.

103.09.7 Method of Measurement and Basis of Payment

Escrow of Bid Documents is measured and paid as lump sum. Payment will be made on the first progress estimate. Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

104.02.3 SIGNIFICANT CHANGES IN THE CHARACTER OF WORK Page 22 4-8-10

Delete the first sentence of the second paragraph (that begins with “If the alterations …”) and replace with the following:

If the alterations or changes in quantities significantly change the character of the work under the contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profit on unperformed work, will be made to the contract

Delete the first sentence of paragraph four (that begins with "The term …") and replace with the following:

The term "significant change" applies when one or more of the following circumstances is met:

104.02.4 CHANGE ORDERS Page 22 11-1-07

Rescind Part C. in the first paragraph (that begins with "Contract time …") and replace Part C. with the following:

C. Contract time adjustments per Subsection 108.07.05.

104.05.2 FAILURE TO PROPERLY MAINTAIN ROADWAY OR STRUCTURE Page 23 3-1-07

Rescind Subsection 104.05.2 and replace with the following:

The Project Manager will immediately notify the Contractor if it fails to maintain the project. Failure to begin to remedy unsatisfactory maintenance within 4 hours of notification may result in:

- The Department performing the required repair. The cost of the repair will be deducted from monies due or to become due to the Contractor, or otherwise be billed to the Contractor.
- Contract time being charged. Contract time will be charged starting on the day of the Department's initial notification and will continue until the repairs are made and the Project Manager approves the repairs.

104.05.4 MAINTENANCE FOR TRAFFIC DURING WORK SUSPENSIONS Page 24 3-1-07

Rescind Subsection 104.05.4 and replace with the following:

A. Temporary Suspension. Make passable and open to traffic all portions of the project, connections, and temporary roadways before temporary work suspensions. Maintain parts of the project, connections, temporary roadways, and detours under traffic at Contractor expense during work suspensions.

B. Winter Suspension. Be responsible for all traffic control and maintenance during winter weather shutdowns, including the time between November 16th and April 15th. Be responsible for all snow removal, sanding, and de-icing for all roadways not completed through the first lift of plant mix surfacing. Furnish all necessary supervision, personnel, and equipment to maintain the road in a safe condition and at the highest level of service to traffic.

The Department is not responsible for any repairs or maintenance to the project that results from snow plowing, sanding, and de-icing on any roadway not completed through top lift of plant mix surfacing.

The Contractor may request that the Department furnish all resources to perform snowplowing, sanding, and de-icing during winter suspension. This work would be detailed in a written agreement. Be responsible for all maintenance, traffic control, or other work not detailed in the agreement. Reimburse the Department, under an accounts receivable, for all Department plowing, sanding, and de-icing expenses according to the terms of the signed agreement.

Attend a meeting scheduled by the Department to review the project to develop the agreement details prior to the winter suspension.

Inspect the project at least once every 14 calendar days. Submit form CSB104_05_4 to the Project Manager within three days of the inspection.

Failure to maintain the project under these requirements will invoke Subsection 104.05.2.

Repair or replace all work and materials lost or damaged due to temporary use of the project. Maintenance work for acts of God or acts of the public enemy, or that are outside the Contractor's control during work suspensions is paid for at contract unit prices or as extra work.

104.06 RIGHTS IN AND USE OF MATERIALS FOUND ON THE WORK Page 24 2-10-11

Rescind and replace Subsection 104.06 with the following:

104.06 MATERIAL AND PROPERTY RIGHTS

104.06.1 Rights in and Use of Materials Found on the Project

Apply for and obtain the Engineer's written approval prior to using excavated materials for other contract items. Designate in the request which contract item the second payment is for. Only one item will be eligible for payment when more than one field measurement by the Department would be required. Replace the removed material with acceptable material at Contractor expense.

Do not excavate or remove material from within the right-of-way that is outside the grading limits without written permission.

104.06.2 Use of Department Property

Do not use Department property outside the project limits for contractor operations, such as staging, without Department approval. Submit an Encroachment Permit to the MDT Maintenance Division for approval. The Encroachment Permit request form is available from the Department's website or the Project Manager. Be

responsible for all requirements within the Encroachment Permit and obtain associated environmental permits prior to the use of the property.

Restore the property in accordance with the contract and Encroachment Permit requirements no later than the Encroachment Permit end date. Obtain seed blend mix designs and allowed seeding time frames from the Project Manager for any re-vegetation required to the area. Repair damaged areas in a timely manner.

The Department will revoke the use of Department property if the requirements of the contract or the Encroachment Permit are not being met. The use of Department property outside the project limits, including any required restoration or repair work is not measured for payment. Contractor failure to fulfill the encroachment requirements is cause for the Department to perform or have corrective actions performed and deduct those costs from monies due or that may become due the Contractor.

104.08 VALUE ENGINEERING PROPOSALS Page 25 11-1-07

Rescind the seventh paragraph (that begins with "The Department's cost of …") and replace with the following:

Costs incurred by the Department during a Preliminary Review will not be charged to the Contractor. If the proposal is advanced to the Detailed Review stage, costs incurred by the Department during the Detailed Review stage will be shared equally by the Department and the Contractor. The submittal of a formal proposal constitutes the Department's authority to deduct these costs from any monies due or that may become due to the Contractor under the contract.

105.02 CONTRACTOR FURNISHED DRAWINGS AND SUBMITTALS Page 27 10-8-09

Rescind the third paragraph (that begins with "The Department has 20 working days …") and fourth paragraph (that begins with "Working drawings, falsework plans…") and replace with the following paragraphs:

The Department has 20 working days to review the submittals before returning them to the Contractor. The Department has 20 working days to review drawings returned for correction and that are re-submitted for review. The Department will consider extending contract time should the Department review exceed the 20 working day review time limit and the delay can be shown to affect the Contractor's operation based on the current schedule.

The Department will perform an engineering review of the first submittal at no cost to the contractor. If the Department determines that the submittal fails to meet generally accepted engineering standards, it will return the submittal for correction. The Department will perform reviews of re-submittals with its own personnel when possible. If Department staff does not have time available to perform reviews, at the Department's sole option it may hire a consultant engineer from outside the Department to finish the review process.

The Department will charge for reviews of re-submittals for its staff time and at the rate charged by a hired engineering firm for its staff time, if the Department hires one. The Department will subtract the charges from contractor payments.

Working drawings and falsework plans for facilities open to public travel are to be signed by a professional engineer registered in the State of Montana before submittal to the Project Manager.

Check and approve working drawings before submittal to the Project Manager. Show the Contractor's approval on the drawings.

105.03.1 GENERAL (CONFORMITY WITH PLANS AND SPECIFICATIONS) Page 27 2-11-10

Rescind the third paragraph (that begins with "When a contract …") and replace with the following:

When a contract item does not meet the contract requirements but is adequate to serve the design purpose, the Contractor will be notified in writing of the deficiency. The Contractor will be given the choice to remove and replace the deficient work, correct the work at no expense to the Department, or accept a reduction in the contract unit price. If the Contractor chooses to accept a price reduction, the Project Manager will determine the amount of the reduction and will apply the reduction using a line item adjustment to the contract. The Project Manager may document the basis of the acceptance by change order.

105.03.2 ITEMS DESIGNATED FOR ACCEPTANCE ON A LOT BASIS (QA) Page 28 10-1-06

Delete the Column for "Cleanness Value" under Table 105-1.

105.03.2 ITEMS DESIGNATED FOR ACCEPTANCE ON A LOT BASIS (QA) Page 27-29 12-27-07

Delete the fourth column titled “Penetration” from Table 105-1.
Delete the tenth row titled “AC in Plant Mix Surfacing and Base” from Table 105-1.

Delete the 6th row titled “Penetration, 85-100 asphalt cement” from Table 105-2.
Delete the 7th row titled “Penetration, 120-150 asphalt cement” from Table 105-2.
Delete the 8th row titled “Penetration, 200-300 asphalt cement” from Table 105-2.

105.03.3 (A) GRADATION (QUALITY INCENTIVE ALLOWANCE) Page 29 2-11-10

Rescind Part A under Subsection 105.03.3 (that begins with “When Volumetric Acceptance…”) and replace with the following:

A. Gradation. When “Volumetric Acceptance” is not specified, a 1.05 pay factor will be applied to non-commercial plant mix surfacing lots where the average results of aggregate gradation tests for the lot for the No. 4 (4.75 mm), No. 40 (0.425 mm), and No. 200 (0.075 mm) sieves are not more than one-half the allowable tolerance from the job mix target value.

105.03.4 TABLE OF CONTRACTOR SUBMITTALS Page 30 4-8-10

Add the following two paragraphs after the last paragraph (that begins with “Submit all required…”)

Electronic submittals to the Department will be accepted if they are in a format accessible by the Department’s software, do not require a signature, and legible once opened. Verify acceptable electronic format types with the Project Manager prior to submittal.

When a specification requires submittal of a form, submit the most current Department form. Forms are available from the Project Manager or on the Department’s Contractor’s system Internet site at http://www.mdt.mt.gov

105.05 COOPERATION BY CONTRACTOR Page 31 3-1-07

Add the following sentence to the end of the third paragraph

This contact must be maintained during all work suspensions, including winter suspension.

Add the following paragraph at the end of Subsection 105.05

Failure to maintain the ability to be contacted within 2 hours during times of work suspension will result in contract time being charged. Time will be charged for the day the Department first attempts to make contact and each additional day that the Contractor’s designated representative cannot be contacted.

105.08.5 SURVEY TOLERANCES AND INSPECTION Page 33 4-8-10

A. Replace the second sentence in part A. Subgrade(that begins with “The 1000 foot…”) and replace with the following:

The 1,000-foot (300-meter) section will be accepted if 80 percent or more of the points checked are within a vertical tolerance range of + 0.05 foot (+15 mm) to - 0.10 foot (- 30 mm), and the horizontal alignment is within 0.30 foot (90 mm) of the true line.

B. Replace the second sentence in part B. Special Borrow(that begins with “The 1000 foot…”) and replace with the following:

The 1,000-foot (300-meter) section will be accepted if 80 percent or more of the points checked are within a vertical tolerance range of + 0.05 foot (+ 15 mm) to - 0.10 foot (- 30 mm), and the horizontal alignment is within 0.30 foot (90 mm) of the true line.

C. Replace the second sentence in part C. Aggregate Surfacing (that begins with “Each 1000 foot…”) and replace with the following:

Each 1,000-foot (300-meter) section will be accepted if 85 percent or more of the points checked are within a vertical tolerance range of + 0.10 foot (30 mm) to - 0.05 foot (- 15 mm), and the horizontal alignment is within 0.30 foot (90 mm) of the true line.

Rescind the third paragraph (that begins with "A station check…") and replace with the following paragraph:

A station check consists of centerline, shoulders, any break in cross slope, and intermediate points not to exceed intervals of 20 feet (6 m). All elevation checks are taken on the material, not on the finish grade control. The Project Manager may increase or decrease the number of stations being checked. After receiving notification of a completed section, the Project Manager will perform the finish grade check by the close of the following business day. Contract time will be extended day for day, without any other compensation, for Department caused delays beyond the allotted time to perform the finish grade check.

105.13 EQUIPMENT Page 35 10-1-07

Delete Subsection 105.13.

105.15.2 FINAL INSPECTION Page 35 7-3-08

Rescind Subsection 105.15.2 and replace with the following:

Upon notice of completion of all contract work, the Project Manager will arrange to make a final inspection. When all work is complete but deferment of final inspection is necessary for causes outside the Contractor's control, the Project Manager will issue a suspend work order and contract time charges will cease.

If the contract work is found satisfactorily completed, the inspection will constitute the final inspection. If the inspection discloses unsatisfactory work, the Project Manager will issue written instructions to the Contractor on the necessary corrections. Immediately comply with the instructions. When the deficiencies are corrected, another inspection will be made which constitutes the final inspection.

Upon completion of the final inspection, submit a completed "Contractor's Final Inspection" (Form CSB105_15_2). The form is available from the Department's website or the Project Manager. The Contractor's project superintendent must sign the certification, which must be sworn to and notarized. The certification must state that:

1. The Department and the Contractor have visually inspected the work, and the Contractor verifies that the work was completed in full accordance with the specifications and the requirements of the contract.
2. The Project Closeout Checklist for the General Permit for Storm Water Discharges Associated with Construction Activities (General Storm Water Permit) has been completed, all necessary corrective actions taken and the General Storm Water Permit transferred to the appropriate entity.
3. Liquidated damages have or have not been assessed, and damages that have been assessed either are or are not disputed by the Contractor.
4. The contract does or does not include any specific warranties (non-manufacturer). If it does, include a list with the expiration dates.
5. The Contractor is aware that the Department will not consider the contract for "final acceptance" until the required labor and materials certifications and documentation are complete, and the Contractor has reviewed and agreed to the final estimate.

Contract time will not cease until the Contractor's Final Inspection has been received and accepted. This is the Substantial Work Complete Date. The Project Manager may suspend contract time for punch list items as long as the roadway is in a condition for the safe and convenient use by the traveling public.

Completion and approval of the Contractor's Final Inspection is not a statement or commitment by the Department that the work meets the contract requirements, and does not waive or alter any of the contract's terms. The contract bond will remain in effect until the certificate of completion is executed and the contract is finally accepted by the Commission, plus any time period specified by Montana law.

105.15.3 FINAL ACCEPTANCE Page 36 12-2-10

Rescind 105.15.3 and replace with the following:

105.15.3 Final Acceptance

When the final estimate is agreed to by the Contractor under Subsection 109.08, submit a completed "Contractor's Request and Certification for Acceptance" (Form CSB 105_15_3). The form is available from the Department's website or the Project Manager. An authorized officer of the Contractor must sign the certification, which must be sworn to and notarized. The certification must state that:

1. The work requested for acceptance has been completed in accordance with the contract's specifications, and the required materials have been used, both in quality and quantity.
2. All construction claims made on the contract have been submitted, and are closed or resolved as of that date.
3. There are no pending investigations referencing alleged nonpayment to subcontractors or suppliers.
4. There are no pending labor compliance or nonpayment claims on the contract.
5. There are no known environmental violations, and the Contractor is responsible for any violations issued for damages or deficient permit compliance record keeping prior to the transfer of the General Storm Water Permit.

6. All contract specific warranty periods (non-manufacturer) have expired.

If any of the above is not completed in full before the certification form is submitted, the Project Manager will inform the Contractor that the form is rejected. If the Request for Acceptance form is approved, a Certificate of Completion will be issued within 10 days and the final estimate submitted to Accounting for payment.

The contract is not finally accepted until it is accepted by the Commission, plus any time period specified by Montana law.

105.16.1 NOTICE OF CLAIM Page 36 7-31-08

Rescind the first sentence of the first paragraph (that begins with "Notify the Project Manager …") and replace with the following:

Submit a notice of claim using the Department's "Notice of Claim" Form CSB105_16_1A, no later than the next business day of disagreements that are to be the subject of a claim for additional compensation, time extension, contract change, or other remedy.

105.16.2 SUBMISSION OF CERTIFIED CLAIMS Page 37 12-17-09

Rescind the first sentence of the third paragraph (that begins with "The Prime Contractor …") and replace:

The Prime Contractor must verify the claim data and certify the claim. Claims from a subcontractor or supplier will not be accepted.

105.16.3 DECISION ON CLAIMS Page 38 10-7-10

Rescind and replace the first paragraph (that begins with "The District Construction …") and replace with:

The Prime Contractor must verify the claim data and certify the claim. Claims from a subcontractor or supplier will not be accepted. The District Construction Engineer will provide a written decision no more than 30 calendar days after receipt of the Certified Claim for Contracts that do not require Escrow of Bid Documents. The District Construction Engineer will provide a written decision no more than 45 calendar days after receipt of Bid Documents for Contracts that do require Escrow of Bid Documents. If additional time is required to research and evaluate the Claim, the District Construction Engineer can extend the time period 14 calendar days by notifying the Contractor in writing.

105.16.3 DECISION ON CLAIMS Page 38 2-10-11

Rescind the first sentence of the second paragraph (that begins with "To advance the…") and replace with the following sentence

To advance the claim, appeal the District Construction Engineer's decision to the Claims Review Board (Board).

105.16.3 DECISION ON CLAIMS Page 38 8-6-08

Rescind the second sentence in the second paragraph (that begins with "Submit the …") and replace with the following:

Submit the "Request for Appeal" Form CSB105_16_3H to the Construction Engineering Services Engineer no more than 30 calendar days after the date of the District Construction Engineer's decision.

Rescind the fourth sentence in the second paragraph (that begins with "The District Construction Engineer's decision …") and replace with the following:

The District Construction Engineer's decision is final unless appealed no more than 30 calendar days after the date of the decision.

Delete the third paragraph (that begins with "If the District Construction Engineer …").

Rescind sixth paragraph (that begins with "The Board may affirm …") and replace with the following:

The Board may affirm, overrule, or modify, in whole or in part, the decision of the District Construction Engineer. The decision of the Board is the Department's final decision.

Add the following paragraph after the sixth (last) paragraph (that begins with “The Board may affirm …”)

The Contractor or Department may request non-binding, independent third party mediation. The Contractor’s request for third party mediation must be submitted to the Construction Engineer on the “Request for Mediation” Form CSB105_16_3E no more than 30 calendar days after the date of the Board’s decision. If the Department and Contractor both agree to mediation, they must mutually agree on a mediator and a mediation date within 14 calendar days of the date of the request for mediation. All costs associated with mediation will be shared equally between the Contractor and the Department.

106.01.1 SOURCE OF SUPPLY Page 39 8-1-07

Add the following paragraph after the second paragraph:

Perform sampling of any material to be tested in accordance with the contract. The Department will decide if a sample was taken correctly. Samples not properly taken may be rejected and may not be accepted for testing.

106.01.2(B) MATERIALS ACCEPTED BY DEPARTMENT TESTING Page 39 4-8-10

Rescind the last sentence in the second paragraph (that begins with “Copies of individual....”) and replace with the following:

Copies of individual Montana test methods are available from the Department's Materials Bureau in Helena.

106.02.2 PROSPECTED SOURCES Page 40 4-8-10

Rescind Subsection 106.02.2 and replace with the following:

Contact the Department for information on Department prospected local material sources.

The Department is not responsible for the quantity or quality of materials indicated in the prospected source reports. Test data included in the reports are based on the samples tested from the exact locations shown using standard tests. No interpretation is made or intended by the Department. Any interpretation is the judgment of the person examining the tests. See Subsection 102.06 concerning verifying quantity and quality by an independent subsurface investigation before submitting a bid. Make arrangements with landowners for sampling and obtaining material from the prospected material sources.

Do not sell or use material from Department-owned or Department-optioned sources for anything other than the designated project without a written agreement from the landowner and Department approval. Other than those requirements specified in a written agreement between the landowner and Department, any arrangements between the landowner and the Contractor are solely between them. Submit copies of all correspondence and agreements with the landowner to the Project Manager.

Notify the Department in writing if a prospected source is to be used and list the contract items for which that material will be used.

Pay all royalties, obtain all required permits and follow their requirements. Coordinate with the landowner to determine the access routes that are allowed for use and any additional landowner requirements. Adhere to all agreed stipulations, including contouring of pits, topsoil conservation and replacement, seeding, repair or obliteration of haul roads, cattle guards, and fencing; the cost of which is incidental to and included in the materials cost.

106.02.3 CONTRACTOR-FURNISHED SOURCES Page 40 2-11-10

Rescind Subsection 106.02.3 and replace with the following:

Acquire the rights to take materials from Contractor-furnished sources and pay all related costs, including costs due to increased haul length, exploring and source development.

Furnish material that meets all statutory and regulatory requirements for being non-toxic and non-hazardous. Do not furnish material from mine tailings and waste, slag, sources within state and federal superfund sites, or sources within areas known or suspected to be contaminated with toxic substances or petroleum products unless laboratory reports from an approved laboratory indicate the material meets these requirements.

Obtain Department approval for any special borrow or aggregate source prior to use. Arrange with the Project Manager for representative samples to be taken and witnessed by the Department at least 30 calendar days before beginning production. Provide all equipment and labor necessary for the sampling. See Subsection 106.10 for the number of Department furnished tests at Department expense.

The Department’s approval of the source does not release the Contractor from the responsibility to produce materials meeting all specified acceptance requirements.

A. Borrow Source Approval. The 85th percentile of the samples taken from the source(s) must meet the R-value and/or the soils classification specified in the contract.

Furnish a minimum of eight Department-witnessed samples at the locations and depths designated within the limits of the proposed source(s).

Samples will be tested for R-value according to AASHTO T190. The R-value at a 300 psi (2,068 kPa) exudation pressure will be used for evaluation. Samples will be tested for soils classification according to MT 214. If the source is approved, it may be limited to certain areas, layers, or soil classes within a source, during or after source approval testing. Approval of the source does not preclude the Department from sampling from the roadway.

B. Aggregate Source Approval. The Department will process and test samples to determine the suitability of the material in accordance with Subsections 701.02.1 and 701.03.1.

Passing wear and volume swell test results are mandatory for Department approval of bituminized material aggregate sources. Passing wear test results are mandatory for Department approval of untreated aggregate sources.

Assume all risk for producing aggregate from sources not meeting the wear test (MT 209) and volume swell (MT 305) tests. The Department will randomly test stockpiled aggregate for wear and volume swell acceptance.

106.05 FIELD LABORATORY Page 42 4-8-10

Rescind Subsection 106.05 and replace with the following:

The Department will furnish all field offices and laboratories.

Furnish and install electrical power to field offices and laboratories as directed:

- A continuous 200-ampere, 220 to 230 volt, single phase, 60-hertz power supply using a four wire connector; or
- A 110 to 120 volt alternating current of sufficient capacity.

Have the source connected by a Montana licensed electrician.

Furnish a potable water supply to operate all testing equipment for the offices and laboratories.

No additional payment will be made for providing power and water to the field office and laboratories. Include these costs in the other items on the project.

106.09 DOMESTIC MATERIALS Page 44 4-8-10

Rescind Subsection 106.09 and replace with the following:

A. Furnish domestic steel or iron materials for permanent incorporation in the work. Domestic material is material that all manufacturing processes, including coating of steel or iron, occur in the United States. Pig iron, and processed, pelletized and reduced iron ore may be manufactured outside the United States. Furnish the appropriate manufacturer's mill tests and certifications documenting the manufacturing processes, including coatings of covered materials, performed in the United States. A minimal quantity of foreign manufactured steel and iron material may be used if the cost of the material, including delivery costs to the project, does not exceed one-tenth of one percent of the total contract amount or $2,500.00, whichever is greater.

Do not incorporate steel or iron materials into the project until a completed Form 406 with all required documentation is furnished. Field inspection of many pre-cast products and prefabricated steel products will take place at the point of manufacture. The District lab, Helena Materials Bureau, or Department representative will inspect the manufacture of these items and collect and maintain supporting documentation. Submittal of a Form 406 is not required when inspection of the fabricated/manufactured product is made at the point of production and documented by the Department. All supporting documentation must be supplied at the point of manufacture. The Department will review the submitted documentation one time at no cost to the contractor. If the Department determines that the submitted documentation is inadequate or fails to meet the contract requirements, it will return the submitted documentation for clarification or correction. Assume the cost for the Department’s review of any subsequent revisions of the same submittal. The cost for the Department’s re-review of the same submittal is the contractor’s responsibility, and may be deducted from contractor payments.

Submit a request to use a minimal quantity of foreign manufactured steel and iron a minimum of five working days before incorporation into the work. Include in the request the dollar amount of the steel for this request, and the cumulative dollar amount requested to date. Failure to do so will require removal and replacement of all foreign steel and iron with domestic steel and iron. If the foreign steel and iron cannot be positively distinguished from any domestic material used, then all of the material must be removed and replaced with domestic steel and iron at the contractor’s expense.

106.10 MIX DESIGNS AND TESTING OF MATERIAL SOURCES Page 44 2-11-10

Rescind Subsection 106.10 and replace with the following:

The Department will furnish the number of mix designs and tests shown in Table 106-1, at no cost to the Contractor:

TABLE 106-1
NUMBER OF MIX DESIGNS AND TESTS FURNISHED AT NO COST

DESCRIPTION	NO. FURNISHED PER CONTRACT
Plant Mix Surfacing Mix Design or Verification	2 per grade
Plant Mix Base Mix Design	2 per grade
Portland Cement Concrete Mix Design	1 per class
Cement Treated Base Mix Design	2 per grade
Special Borrow Testing Package	1 per 65,000 cubic yard (50,000 cubic meters) of plan quantity
Surfacing Material Testing Package Indicated source(s) shown on plans Surfacing source(s) furnished by the Contractor	 2 2

Requests for additional testing will be processed in the order they are received, with a minimum 30-calendar day turnaround. The Contractor will be charged the Department's cost for each additional mix design, mix design verification, and testing package. The total cost will be deducted from the progress estimate payments.

107.02 PERMITS, LICENSES, AND TAXES Page 45 7-3-08

Rescind the first paragraph (that begins with “Obtain all …”) and replace with the following:

Obtain all legally required permits, authorizations and licenses, pay all charges, fees, taxes, and fuel taxes giving all notices necessary and incidental to the lawful prosecution of the work.

107.06 PUBLIC CONVENIENCE AND SAFETY Page 46 5-1-08

Add the following three pargraphs after the first paragraph (that begins with “Conduct construction with…):

High-visibility safety apparel must be worn by all workers within the right-of-way of all projects. Use high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled “*American National Standard for High-Visibility Safety Apparel and Headwear*”.

Workers include all persons on the project at the request of, employed by, or for the benefit of the Contractor. This includes suppliers and subcontractors at every tier including volunteers.

A workers failure to wear required apparel may result in the worker’s immediate and permanent ejection from the project, and/or a suspension of work in that area, at the discretion of the Project Manager. No claim for compensation or delay costs may be made by or through the Contractor in such a case.

107.08 LOAD RESTRICTIONS Page 47 8-1-07

Delete the first paragraph (that starts with “Do not exceed legal load …”) and replace with the following:

Do not exceed legal load restrictions when hauling material and equipment on public roadways and bridges within and beyond the project limits and on all new and existing portland cement concrete roadways, completed and accepted gravel surfaces, treated base courses, bituminous surfacing lifts and courses, including plant mix base, plant mix surfacing, and seal and cover.

107.08 LOAD RESTRICTIONS Page 47 6-1-06

Rescind the last sentence of the fourth paragraph (that begins with “Furnish a ….”) and replace with the following:

Furnish a drawing showing distances between axles, truck tare weight, and the overall length of each truck prior to hauling or placing operations.

Add the following paragraph after the fifth paragraph under Subsection 107.08:

If raising a retractable or tag axle results in the truck being over the maximum legal weight, only raise the axles when backing to unload at a chip spreader, windrow, or plant mix paver. Back the minimum distance possible while over legal weight restrictions. Do not exceed the legal weight on the steering axle by more than 25 percent, or tandem axles by more than 50 percent while backing with the retractable or tag axles lifted.

107.10 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE Page 48 12-2-10

Rescind Subsection 107.10 and replace with the following:

107.10 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE

107.10.1 Public and Private Property.

Preserve all public and private property when performing work. Do not disturb or damage land monuments and property markers until witnessed or referenced by the Project Manager.

Be responsible for all damage to public and private property resulting from any act, omission, neglect, or misconduct in the manner or method of executing work until the project is accepted. This responsibility includes damage caused by compaction, vibratory, and impact equipment.

Replace or restore damaged property to its original condition at Contractor expense.

Conduct a review of all public roadways to be used by Contractor equipment, including haul operations, before work begins. Arrange for a local road authority representative and the Project Manager to attend the review. The parties are to review and document the roadways existing condition and determine a dispute resolution process if an agreement on roadway restoration cannot be reached.

Once the roadway is no longer in use by the Contractor, conduct another review by the same parties. The parties are to reach an agreement on what is required to restore the roadway comparable to its original condition. Perform all work required to restore the roadway comparable to its original condition and obtain the Engineer's approval of the work once completed.

Roadway restoration is not measured for payment.

107.10.2 American Legion Fatality Markers.

Take inventory of all American Legion Fatality Markers (fatality markers) within the project limits prior to construction activities. Identify the fatality marker's route, reference post, and side of road it is located on. Identify fatality markers that are in conflict with proposed construction activities and those that are not.

A. Fatality Markers in Conflict with Construction Activities. Prior to construction activities in vicinity of fatality markers, remove and locate fatality markers to a safe location. Upon completion of construction activities, return the fatality markers to the same route as close as practical to the original reference post and side of road, at an offset distance established by the Department.
B. Fatality Markers not in Conflict with Construction Activities. Do not disturb fatality markers not in Conflict with construction activities.

Be responsible for all damage to fatality markers resulting from any act, omission, neglect, or misconduct in the manner or method of executing work until the project is accepted. Replace or restore damaged fatality markers to their original condition at Contractor expense. All costs incurred to meet the American Legion Fatality Marker requirements are incidental to other items of the contract.

107.11.3 AIR QUALITY Page 49 10-8-09

Add the following paragraphs after the first paragraph (that begins with "Operate all equipment…"):

Prevent or reduce dust on the project caused by construction operations or traffic, to be in compliance with all federal and state laws and regulations.

Use water, liquid magnesium chloride, liquid calcium chloride, or other dust palliative approved by the Project Manager. Use only Contractor owned water sources or water that is obtained under a purchased water right according to state law.

Dust control for compliance with all laws and regulations is not measured for payment.

Include the cost for dust control in the item of work being performed that results in dust. Any violations or fines associated with dust control / dust control operations are the responsibility of the Contractor.

107.11.4 NOISE POLLUTION Page 49 10-8-09

Rescind Subsection 107.11.4 and replace with the following:

Adhere to local noise ordinances, laws and regulations, and follow all requirements contained in the contract regarding noise pollution.

107.11.5 NOXIOUS WEED MANAGEMENT Page 49 10-8-09

Rescind the second paragraph (that begins with "All costs incurred…) and replace with the following three paragraphs:

Noxious weeds include those species designated by the Montana Department of Agriculture. The most recent list of designated noxious weeds is available from the MT Department of Agriculture, or local county Extension Service or Weed District. The MT Dept. of Agriculture web site with noxious weed information is: www.agr.mt.gov/weedpest/noxiousweeds.asp

Clean all equipment and vehicles prior to their transport into the project area. Equipment or vehicles with visible dirt or plant parts will not be allowed into the project area until they are cleaned to the satisfaction of the Project Manager.

All costs incurred to meet the county weed control requirements are incidental to other items of the contract.

107.11.6 NOXIOUS WEED CONTROL Page 50 10-8-09

Add the following subsection:

107.11.6 Noxious Weed Control

When Noxious Weed Control is included as a bid item, provide noxious weed control to all lands within the right-of-way within the project limits.

Monitor the construction, borrow and staging areas at intervals necessary to prevent noxious weeds from developing viable seed. Noxious weeds may be controlled through hand-pulling or herbicide application. Select the most effective and appropriate means of control based upon the species and size of infestation and environmental conditions.

If the control is accomplished with the application of herbicides, use only a licensed commercial pesticide applicator certified to apply general and restricted-use herbicides. Use herbicides that meet all applicable state and federal pesticide laws and that are registered with the Montana Department of Agriculture as required by the Montana Pesticide Act. Apply herbicides in a manner that provides immediate control, but does not jeopardize or cause potential harm to final reclamation objectives. Follow all applicable state and federal pesticide laws. If it is determined that herbicide application caused or contributed to the failure of reclamation, take corrective action at no additional cost to the Department.

Do not perform noxious weed control on areas that have received final seeding.

Noxious Weed Control within the project limits is measured by force account methodology. Noxious Weed Control in areas outside of the project limits is not measured for payment.

Work performed within the project limits is paid by units of Noxious Weed Control.

107.13 INSURANCE REQUIREMENTS Page 50 2-10-11

Rescind Subsection 107.13 and replace with the following:

107.13 INSURANCE REQUIREMENTS
Meet the timing requirements of subsection 103.07.

107.13.1 Insurance on All Contracts

A. Commercial General Liability Insurance. Obtain Commercial General Liability insurance with a general aggregate limit of $2,000,000; an occurrence limit of $1,000,000; and products and completed operations limit of $1,000,000. The policy must name the State of Montana, its agents, employees, and officers as an additional named insured.
B. Owners and Contractors Protective Liability Insurance. Obtain an Owner's and Contractor's Protective (OCP) liability insurance policy for all work to be done, on behalf of the owner (State of Montana, the Department, and its agents, employees and officers) to be submitted with the contract when executed, with a general aggregate limit of not less than $2,000,000 and an occurrence limit of not less than $1,000,000.
C. Insurance Policies. Both of the above policies must:
    1. Provide coverage on an occurrence basis and not on a claims-made basis;
    2. Not contain exclusions for explosion, collapse, or underground damage hazards; and
    3. Provide that all insurance or self insurance maintained by the State, its agents, employees, and officers is in excess of the required insurance and does not contribute with it.

Maintain Commercial General Liability insurance in full force from the effective date stipulated in the Notice to Proceed until Commission acceptance of the project, unless written approval is given by the Construction Administration Services Engineer to cancel the policy. Maintain Owner's and Contractor's liability insurance in full

force from the effective date stipulated in the Notice to Proceed until the "Contractor's Final Inspection" (Form CSB 105_15_2) is approved by the Department.

Obtain all policies from an insurer with a Best rating of A- or better on the date the policy is written.

The insurance requirements are a condition precedent to the contract. Failure to obtain and maintain all required insurance is considered a material breach of the contract.

Reinstate the policies listed above if a return to the project is required to complete additional work. Do not begin work until the policies are reinstated and submitted to the Construction Administration Services Bureau in Helena.

107.13.2 Insurance Involving Railroads

Furnish Railroad Protective Liability Insurance on behalf of the railroad when equipment or personnel are located or work is done on any railroad right of way.

The limits of liability are specified in the contract.

Maintain Railroad Protective Liability Insurance in full force until the "Contractor's Final Inspection" (Form CSB 105_15_2) is approved by the Department.

Submit copies of the railroad insurance policies as specified in the contract for transmittal to and approval by the railroad. Do not use or enter railroad property until railroad approval is received and the policies are in effect. This applies to all work done as a part of the project.

Reinstate the Railroad Protective Liability Insurance if a return to the project is required to complete additional work. Do not begin work until the policy is reinstated and submitted to the Construction Administration Services Bureau in Helena.

107.13.3 Reserved

107.13.4 General

Furnish insurance policies with an endorsement that prohibits canceling, altering, amending or reducing coverage without giving a minimum of 30 calendar days written notice by the insurance company to the insured and the Department. A Montana resident agent must countersign all insurance policies issued under the contract. If the state where the insurance is being purchased has a reciprocal agreement with the State of Montana and the insurance company is licensed to do business in the State of Montana, a countersignature by a Montana Resident Agent is not required.

107.17 CONTRACTORS RESPONSIBILITY FOR WORK Page 51 10-9-08

Rescind the second (last) sentence in the first paragraph (that begins with "Rebuild, repair, and…") and replace with:

Repair all damage to any project work, or the project site, caused by the Contractor or anyone performing any project work at no expense to the Department.

Replace the fourth paragraph (that begins with "The above requirements…") with the following paragraph:

The above requirements do not apply to units or portions of the project that have had a final inspection under Subsection 105.15, other than damage to the project site by either the Contractor or anyone performing project work.

Replace the fifth paragraph (that begins with "Repair of damage…") with the following paragraph:

Provided the damage was not caused by the Contractor or Subcontractor, repair to items that have been accepted as complete is Extra Work under Subsection 104.03 and will be paid for under Subsection 109.04. A building is considered complete when it is fully functional, and is open to the public.

107.18 CONTRACTORS RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES Page 52 12-2-10

Rescind the second paragraph (that begins with "Call the utilities...") and replace with the following paragraph:

Call the Utilities Underground Location Center (1-800-424-5555) or other notification system, UDIG (1-800-551-5344) if in Flathead or Lincoln County, for the marking and locating of the utilities before excavation.

Add the following paragraph after the second paragraph (that begins with "Call the utilities..."):

The Department will locate existing Department owned utilities. If utilities are relocated or installed as part of the contract, the location of the relocated or newly installed utilities is the responsibility of the Contractor. The Contractor remains responsible for the relocated or newly installed utilities until the utility is functioning and in use by the traveling public.

107.23 DISCOVERY OF UNDERGROUND STORAGE TANKS Page 54 9-9-10

Rescind Subsection 107.23 and replace with the following:

Take the following action if an underground storage tank or tanks are encountered, the existence or location which was previously unknown to the Department or Contractor, on the project within the project limits.

A. Immediately stop work in the vicinity and notify the Project Manager

B. Immediately notify the local fire authority and protect people and property from fire, explosion, vapor, and other potential hazards, and prevent further release of the tank's contents. Take all actions requested by the Project Manager.

C. Notify the Department of Environmental Quality (DEQ) within 24 hours if there is evidence of soil or groundwater contamination resulting from a tank leak or pipe leak, at:

Underground Storage Tank Program
Department of Environmental Quality
Environmental Remediation Division, Petroleum Technical Section
1-800-457-0568

D. Perform the tank removal and closure work as permitted by DEQ.

E. Do not resume work in the immediate vicinity of the tank or piping until approved by the Project Manager.

Costs incurred from the discovery of underground storage tanks within the project limits are paid for as extra work under Subsection 104.03. Costs from the discovery of underground storage tanks outside the project limits are not the Department’s responsibility.

107.24 DISCOVERY AND REMOVAL OF UNKNOWN HAZARDOUS MATERIALS Page 54 9-9-10

Rescind Subsection 107.24 and replace with the following:

If hazardous material is discovered within the project limits, the existence or location of which was previously unknown to the Department or the Contractor or not identified in the contract, immediately stop work in that area and notify the Project Manager. Hazardous material includes, but is not limited to; contaminated soil, contaminated water, asbestos, PCBs, petroleum, PCPs, hazardous waste or radioactive material. If the area is determined to pose a hazard to the traveling public, close off all access to the area as directed. Work may continue in unaffected areas believed to be safe.

Once notified of the contaminated site, the Department will determine whether a separate Contractor will be used to assess and clean up the contaminated site before permitting the Contractor to resume work in the contaminated area. If the Department, after consulting with the Contractor, determines that the Contractor can perform the work it is subject to Subsection 107.26 and is paid for under Subsection 104.03. Obtain all necessary clearances (procedures, permits, etc.) from the regulatory agencies before starting any work.

If the Contractor does not want to perform the work, it agrees and accepts that it waives any potential claim for itself, its subcontractors, and suppliers for damages for delay from the Department's securing another Contractor to perform the clean-up work.

The Department will equitably compensate the Contractor under Subsection 109.04.3 for costs associated with the delay to work in the affected area.

108.01.2 CONTRACT PERFORMANCE Page 57 3-27-08

Rescind the first paragraph (that begins with “Perform at least 40 percent… “) and replace with the following:

Perform at least 40 percent of the original contract cost with the Contractor's organization. The price of items designated in the contract as "Specialty Items" will be subtracted from the original contract price before the amount required to be performed by the Contractor is calculated.

Rescind the first sentence in the second paragraph (that begins with “Where an entire item is subcontracted…”) and replace with the following:

Where an entire item is subcontracted, the percentage of the total work subcontracted is based on the original contract item unit price.

Rescind the third paragraph (that begins with “Do not allow a Subcontractor at any …”) with the following:

Do not allow a Subcontractor at any contract tier to start work until its subcontract is consented to by the Construction Administration Services Engineer in Helena. Include one fully executed and one copy of the subcontract and a letter from the surety consenting to the subcontract. The subcontractor must possess a current special fuel users permit under 15-70-302 MCA. If the subcontractor does not use special fuel, include a letter stating that the “subcontractor does not use special fuel” with the subcontracts.

Rescind the first sentence of the fifth paragraph (that begins with “Inform the Subcontractor of all the…”) with the following:

Inform the Subcontractor of all the contract provisions, and that the Subcontractor is bound by all terms of the prime’s contract with the Department.

Rescind the first sentence of the sixth paragraph (that begins with “Attach to each subcontract all required …”and replace with the following:

Attach to each subcontract all required contract provisions, including the FHWA Form 1273 and predetermined minimum wage rates.

108.01.3 SUBCONTRACTOR PAYMENTS Page 57 4-8-10

Add the following Subsection:

Submit payment information for all Subcontractors to the Civil Rights Bureau within 30 calendar days of the payment. This information can be submitted electronically on the Department’s website.

108.03.1 GENERAL (PROSECUTION OF WORK) Page 58 9-23-10

Delete the fourth sentence of the third paragraph (that begins with “No other work …”) and replace with the following sentences:

Submit a schedule meeting all requirements of Subsection 108.03.2 or 108.03.3 at or before the pre-construction conference. No other work, except obtaining permits, may begin until the schedule requirements have been met No payments will be made on the contract until the pre-construction conference has been held and the submitted schedule reviewed.

108.03.1 GENERAL (PROSECUTION OF WORK) Page 58 1-31-08

Replace the first sentence in the third paragraph (that begins with “A pre-construction conference …”) and replace with the following:

A pre-construction conference will be held on a mutually agreed date between the Contractor, Department and other parties interested in the work before work within the project limits begins no later than twenty days after the Notice to Proceed date.

108.03.2 PROJECT SCHEDULES Page 59 1-31-08

Add the following sentence after the first sentence in the first paragraph:

The initial schedule must show that the work will be completed in the time frame as specified in the contract.

108.03.3 CRITICAL PATH METHOD (CPM) SCHEDULING Page 60 1-31-08

Add the following sentence at the end of the first paragraph:

The initial schedule must show that the work will be completed in the time frame as specified in the contract.

108.07.1 CALENDAR DATE CONTRACTS Page 62 7-3-08

Rescind Part B. under the first paragraph (that begins with “Complete all work …”) and replace with the following:

B. For extra work according to the calendar days added under Subsection 108.07.5

Rescind the second paragraph (that begins with “The new completion …”) and replace with the following:

The new completion date is determined by adding the number of calendar days between the tenth day after bid opening and the award date; the calendar days added under Subsection 108.07.5; or the number of calendar days during authorized suspensions to the specified fixed calendar completion date.

Rescind the third paragraph (that begins with “The actual completion …”) and replace with the following:

The actual completion date is the date the Engineer approves the Final Inspection under Subsection 105.15.3.

108.07.3 WORKING DAY CONTRACTS Page 63 2-19-09

Rescind Parts (1) and (2) under the third paragraph (that begins with “Working days will…”) and replace with the following:

1. At least 60 percent of the daily schedule that could have been worked from April 16 through November 15.

2. At least 60 percent of the daily schedule that was planned to be worked or four hours, whichever is less, from November 16 through April 15.

Rescind and replace the last paragraph (that begins with…”File a written…”) and replace with the following:

Submit a written protest to the Project Manager within the time frame shown on the weekly report for any alleged discrepancies in the time assessed.

108.07.3 WORKING DAY CONTRACTS Page 63 9-1-06

Rescind the first sentence of the fourth paragraph (that begins with “All days worked …”) and replace with the following:

All days worked from November 16 through April 15 that have any impact on the traveling public will be considered a chargeable day except for the following:

108.07.3 WORKING DAY CONTRACTS Page 63 6-1-06

Rescind the seventh paragraph (that begins with “Do not work …”) and replace with the following:

Do not work on holidays, Sundays, or the days described below without the Engineer's approval. Work done on Saturdays, Sundays, and approved holidays will be assessed as working days. Do not work after 12:00 noon on Friday, or on Saturday and Sunday prior to Memorial Day (last Monday in May) and Labor Day (first Monday in September). Do not work after 12:00 noon on Friday, or on Saturday or Sunday prior to Independence Day (July 4) when July 4 is on a Saturday, Sunday or Monday. A working day will not be assessed against the contract for work performed up until 12:00 noon on Friday under the above circumstances.

108.07.3 WORKING DAY CONTRACTS Page 63 3-1-07

Rescind number 2 in the fourth paragraph (that begins with “2. Emergency and maintenance …”) and replace with the following:

2. Emergency and maintenance repairs to the project when the time requirements under Subsection 104.05.2 are met.

Rescind the first sentence of the ninth paragraph (that begins with “Chargeable or non-chargeable …”) and replace with the following:

Chargeable or non-chargeable working days will be determined daily by the Project Manager.

108.07.5 EXTENSIONS (TIME) Page 64 11-1-07

Rescind the second paragraph (that begins with “The contract time as awarded …”) and replace with the following:

The contract time as awarded is based on the estimated quantities as defined in Subsection 102.05. No decrease in contract time will be made for any decrease in a contract item. The contract time may be increased based on the quantity and difficulty of added work and how it impacts the Contractor’s operation as shown on the most current work schedule as required under Subsection 108.03.

The time extension will be to the nearest whole day.

No additional contract time will be allowed for:

A. Increases in percentages of asphalt in plant mix materials.

B. The addition of anti-stripping additives to bituminous materials.
C. The addition of or for increases in hydrated lime or mineral fillers to plant mix materials.
D. Increases in traffic control devices.
E. Delays for slow delivery of materials from the supplier or fabricator.
F. Material deliveries delayed for reasons of late ordering, financial considerations, or other foreseeable and preventable causes within the Contractor's control.

108.08 FAILURE TO COMPLETE ON TIME Page 65 11-1-07

Rescind 108.08 (except for Table 108-1) and replace with the following:

If the contract time is exceeded, including approved adjustments, a daily charge will be made against the contract until the work is substantially complete under Subsection 105.15.2. This daily charge, determined from Table 108-1, will be deducted from any money due the Contractor. This deduction is for liquidated damages for added Department contract administration costs, etc. for failure to complete the work on time.

Permitting the Contractor to continue and complete the work after the specified contract completion time or approved extensions granted does not waive the Department's rights under the contract.

If the Contractor disputes the liquidated damages on the accepted “Contractor’s Final Inspection” form, the Construction Administration Services Bureau will send a final notification in writing to the Contractor of the number of days to be assessed and the dollar amount of the proposed liquidated damages. Submit any objections of the assessment to the Construction Administration Services Bureau in writing within thirty days of receipt of the Department's notification. Include with the objection the justification and all information to support an adjustment to the assessment. The Department will review the Contractor's information and perform a final analysis.

The Commission will review all liquidated damages and any disputes. The Construction Administration Services Bureau will submit the Contractor’s information and the Department's recommendation to the Commission. A copy of the Department’s recommendation will be sent within 45 days of receipt of the objections to the Contractor. The Contractor must state in writing within fourteen days of receipt of the Department’s recommendation if an appearance before the Commission is requested. If an appearance is requested, the Department will notify the Contractor in writing of the date the Commission will review the liquidated damages recommendation. The Commission will not receive or hear new information at the meeting not already furnished in the Contractor's original response.

108.08 FAILURE TO COMPLETE ON TIME Page 66 10-21-10

Rescind Table 108-1 and replace with the following:

TABLE 108-1
SCHEDULE OF LIQUIDATED DAMAGES

ORIGINAL CONTRACT AMOUNT		DAILY CHARGE
From More Than	To and Including	Working Day or Calendar Day
$0	$100,000	$852
$100,000	$500,000	$1,473
$500,000	$1,000,000	$1,801
$1,000,000	$2,000,000	$2,220
$2,000,000	$5,000,000	$2,889
$5,000,000	$10,000,000	$4,523
$10,000,000	—	$5,819

108.10.2 PAYMENT Page 67 10-8-09

Rescind the second and third paragraphs and replace with the following paragraphs:

Payment will be made for materials delivered or stockpiled, or work performed, that comply with the contract's specifications or that have been inspected, tested, and accepted for use. Payment will only be made for materials that have been properly stored and maintained until they are delivered to the Department. An equitable adjustment will be made under Subsection 109.05 for partially completed items of work and disposal of materials.

Submit the termination costs to the Project Manager within 60 calendar days of the date of the notice of Termination for Public Convenience, under Subsection 108.10.1. Provide sufficient detail and make all project records available so the Engineer can determine the basis and amount of the termination costs. If a basis cannot be agreed upon, then an adjustment will be made in such amount as the Engineer may determine to be fair and equitable. Follow the requirements of Subsection 105.16 if the Engineer's equitable adjustment is disputed.

109.02.1 PAY UNIT ROUNDING Page 71 10-8-09

Add the following subsection:

109.02.1 Pay Unit Rounding

The Project Manager will determine the quantities of work performed for each pay estimate as outlined in Subsection 109.01. All quantity calculations will be rounded for payment as outlined in Table 109-1

TABLE 109-1A

ROUNDING CRITERIA

PAY UNIT	ROUNDING
Foot (meter)	1 (0.1)
Station	0.01
Mile (kilometer)	0.01 (0.01)
Course Foot (kilometer)	10 (0.01)
Square Foot (meter)	1 (0.1)
Square Yard (meter)	0.1 (0.1)
Acre (hectare)	0.01 (0.001)
Cubic Yard (meter)	0.01 (0.01)
Thousand Board Feet (cubic meter)	0.01 (0.01)
Gallon (liter)	1 (1)
Pound (kilogram)	1 (1)
Ton (metric ton)	0.001 (0.001)
Ton-Mile (metric ton-kilometer)	1 (1)
Mile-Cubic Yard (kilometer-cubic meter)	1 (1)
Hour	0.1
Lump Sum	0.001
Each	1
Unit	1

All dollars will be rounded on progress and final estimates to $0.01.

109.04.1 UNIT PRICE OR LUMP SUM BASIS (EXTRA WORK) Page 72 3-1-07

Rescind Subsection 109.04.1 Unit Price or Lump Sum Basis and replace with the following:

109.04.1 Unit Price or Agreed Price

Extra work performed under Subsections 104.02 and 104.03 is paid for at the unit price or price agreed upon and specified in the change order.

Force account basis under 109.04.2 will be used if a change order with an agreed price is not signed by the Contractor.

109.04.2 FORCE ACCOUNT BASIS Page 72 5-1-08

Rescind the first paragraph (that begins with “Approved extra work …”) and replace with the following:

Approved extra work paid for on a force account basis will be accounted for daily. The daily report sheets are the true record of extra work. The payments below are full compensation and include profit and overhead. No additional profit will be added. Extra work on a force account basis ordered by the Engineer in writing, under Section 104, is paid for as follows

Rescind the first sentence of the first paragraph in part A (that begins with “The Contractor is paid …”) and replace with the following:

The Contractor is paid the wage rates for all labor and foremen assigned exclusively to performing the extra work for the total hours worked plus at least 80 percent of the total.

Add the following sentence after the first sentence in the second paragraph of part A (that begins with “Submit evidence of …”):

Only labor on certified payrolls is eligible.

Rescind the first sentence in Subsection C (that begins with “The Contractor will receive …”) and replace with the following:

The Contractor will receive the rental rate or invoice price, where applicable, for machinery or special equipment (other than small tools) used to perform the work plus 10 percent.

Add the following sentence after the second sentence of part D (that begins with “No surcharge is allowed …”):

No payment will be made for additional performance bond premiums if the evidence is not submitted within 30 days of completion of the force account work.

Rescind the second paragraph of Subsection F (that begins with “The inspector will …”) and replace with the following:

The Inspector will compile and forward to the Project Manager, at the end of each day, a daily record of extra work done on a force account basis. The Project Manager will forward the information to the Contractor.

109.05 DELETED OR TERMINATED WORK Page 73 3-12-09

Rescind the first sentence in 109.05, part (1) (that begins with “Payment will be…”) and replace with the following sentence:

Payment will be made for the actual number of units of work completed and meeting all contract requirements at the contract unit prices unless the Engineer determines the contract unit prices are inappropriate for the work actually performed.

Rescind the first sentence in 109.05, part (2) (that begins with “Payment for partially …”) and replace with the following sentence:

Payment for partially completed lump sum items that meet contract requirements will be as mutually agreed.

109.06 PARTIAL PAYMENTS Page 74 7-3-08

Rescind the first paragraph (that begins with “Partial payments will be made …”) and replace with the following:

Partial payments will be made once each month, following the effective date on the Notice To Proceed, based on estimates of the value of the work performed and materials complete in place under the contract, including materials delivered under Subsection 109.07. No payments will be made for work performed or materials produced without the required permits and authorizations in place as required under Subsection 107.02.

109.06.1 BILLING CYCLE Page 74 10-8-09

Add the following subsection:

109.06.1 BILLING CYCLE

In accordance with §28-2-2115, MCA, this contract provides that the Department will submit payment estimates in billing cycles other than once a month, when deemed necessary. Do not submit a request for routine payment and requests for payment of any item does not initiate any period for payment. Requests may be submitted for stockpiled material payments in accordance with 109.07.

In accordance with federal regulations, the Project Manager will issue estimates, usually monthly, for progress payments greater than $500 based on the documentation of approved work and the Project Manager's opinion of the percentage of completion, in accordance with specifications, of each of the project's "Schedule of Items". The Department will review work performed for completeness, specification compliance, and quality assurance before it is given conditional approval for progress payment. Should work that was previously paid for any reason, such as stockpiled material under 109.07, be later found not to comply with quality assurance or specification, such as compliance testing or any required material certification, that part of the work will be deleted from payment approval. In such case, future monthly estimates will be lessened by the reduced amount, or the Contractor will be required to repay the previously-paid amounts until the work is performed in full compliance with specification and quality assurance.

Notice of extended payment provision: this contract allows the Department to make payment within thirty (30) days after submission of estimates by the Project Manager.

The contract's final payment will not be made until:

- The Contractor has fully completed all work under the contract;
- All required documentation has been submitted to the Department's satisfaction; and
- The materials supplied and work performed has passed the Department's quality assurance testing.

Pay all subcontractors within seven days after receipt of a periodic or final payment from the Department, for the full amount due the subcontractor under the subcontract for work performed or materials provided that were included in the periodic or final payment according to the provisions of §28-2-2103(2)(a), MCA. A subcontract may not provide for a time longer than the law's mandated seven days.

109.07 PAYMENT FOR MATERIAL ON HAND Page 74 5-12-11

Rescind Subsection 109.07 and replace with the following:

109.07 STOCKPILED MATERIALS

Materials delivered and stockpiled at the project site or other location approved by the Project Manager may be considered for partial payment, if the following requirements are met:

1. The requirements of Subsection 108.03 have been satisfied.
2. The material meets the contract requirements.
3. The material is a manufactured end product or a fully fabricated product. Aggregate must be produced and stockpiled to the final stage for incorporation into the specified mixture or the roadway. Riprap meeting the gradations specified in Table 701-19 for the class specified in the plans is considered a manufactured end product for this Subsection.
4. Material is stored to prevent damage and theft, without obstructing or impeding the traveling public. MDT Inspectors have access to the inventory sheets and the stockpiles at all times.
5. A written request is accompanied with an invoice(s) for all items received. Include the quantity for which payment is requested, the length of time the material is to be stored, the location for material stored off the project site, and sufficient detail to justify the costs. If the material is manufactured by the prime contractor, include the manufacturing costs in the request.

   Submit a new request and invoice(s) to the Project Manager whenever items are added to the stockpile. Clearly identify the project number, location, designation and the entire inventory on these sheets. Keep each project's stockpiled material separated from stockpiles belonging to other projects. Only use stockpiled material for the designated project.

Steel or Iron items meeting Subsection 106.09 may be stored at property owned or leased by the Contractor or approved Subcontractor if approved by the Project Manager. The property must be located in Montana and accessible to Department personnel at all times.

Payment made for material on hand does not constitute acceptance of the material.

If stored material is lost, stolen, or damaged, the material's value will be deducted from the subsequent estimate or estimates.

Payment of partial estimates for stored material, acceptance of the materials to be stored, or approval of the storage method does not relieve the Contractor's responsibility for all materials and work upon which payments have

been made or the restoration of any damaged work. The payments are not a waiver by the Department of any other contract provisions or of its rights to require fulfillment of all contract terms.

Partial payment will be made for the invoice price, or for the manufacturing costs incurred by the prime contractor. Payment for stockpiled materials will not exceed the contract unit price or the amount justified to the Project Manager. When stockpiled material has been produced by crushing operations, payment will not exceed 40 percent of the contract unit price.

Obtain the Engineer's written approval of off-project site storage locations for bridge prestressed beams, bridge structural steel members, concrete box structures, and other large structural items.

No payment is made for bridge deck re-surfacing materials having a manufacturer's expiration date passing before its scheduled incorporation into the work.

109.08 FINAL ESTIMATE — Page 77 — 11-1-07

Rescind the first two paragraphs of 109.08 and replace with the following two paragraphs:

When the final inspection of the contract is complete under Subsection 105.15.2, the contract documents will be finalized, including a final change order, and a final estimate will be prepared. The estimate will include the amount and value of each class of work performed and any extra work and materials. Deductions for all previous payments and amounts to be deducted or withheld under the provisions of the contract will be made in the final estimate. Errors made in previous partial payments will be corrected in the final estimate.

When the final estimate is complete and all required documentation (e.g., material certifications, labor dispute resolutions, etc.) has been received, the Construction Administration Services Bureau will send a copy of the final estimate to the Contractor for review. The Contractor has thirty days to dispute the final estimate or submit the request for acceptance under Subsection 105.15.3.

109.09.1 GENERAL (MOBILIZATION) — Page 77 — 3-1-07

Add the following number 7 after number 6 in Subsection 109.09.1 General:

7. Submission of all forms, certifications, and documentation required for the Department to prepare the final estimate and issue a certificate of completion.

Add the following paragraph at the end, after number 7:

Mobilization is only to be used for these reasonably-anticipated expenses, and is not to be used either to front-load a bid in order to receive payment earlier, or to unbalance a bid.

109.09.2 PAYMENT (MOBILIZATION) — Page 77 — 9-23-10

Rescind Subsection 109.09.2 and replace with the following:

109.09.2 Payment

The original contract amount is the total price of the contract as bid. The Contract Amount Paid is the cumulative amount paid on progress estimates, excluding all price adjustments. Partial payments for mobilization will be made based on the lump sum contract unit price under Table 109-2. No payments will be made for mobilization until the requirements of Subsection 108.03 have been satisfied.

TABLE 109-2
MOBILIZATION PAYMENTS

Percent of Contract Amount Paid	Amount Paid (whichever is less)	
	Percent of Mobilization Bid Amount [1]	Percent of Original Contract Amount
First estimate after Notice to Proceed	99	1
5	25	3
10	50	6
25	60	8
50	90	10
70 or Substantial Work Complete, whichever occurs first	99	
Form CSB105_15_3 has been approved	100	

Note:

1. This percentage is the cumulative amount paid to that point, not the amount paid on the progress estimate.

Payment at the contract unit price is full compensation for all necessary resources to complete the item of work under the contract.

109.10 OVERPAYMENTS Page 78 3-27-08

Replace Subsection 109.10 and replace with the following:

Overpayments on progress estimates will be deducted from subsequent progress estimate payments. If there are no subsequent progress estimate payments to be made, or the amounts to be paid are less than the overpayment, the Department may:

1. Notify the Contractor of the overpayment. The Contractor has 30 days from the date of receipt of notification of overpayment to repay the money owed. If the money owed is not received by the Department before the 30-day period expires, interest will be charged on the overpayment beginning with the date of receipt of notification of overpayment. The interest rate charged will be the average Short Term Investment Pool (STIP) rate, determined by the Montana State Board of Investments, for the period in which the overpayment is not repaid.
   The Contractor may be barred from bidding on Department projects until the money that is owed has been received.
2. The Department may close the project and the amount of overpayment and accrued interest will be deducted from the progress estimate payment of any contract with the Department.

109.11 FUEL PRICE ADJUSTMENT Page 78 4-8-10

Rescind Subsection 109.11 Fuel Price Adjustment and replace with the following:

109.11 FUEL PRICE ADJUSTMENT

Notify the Project Manager in writing by the Notice to Proceed Date or at the Pre-construction Conference, whichever comes first, of intent to participate in fuel price adjustment. Once the provision is invoked, it will not be reversed. Submit a list of contract items, according to Table 109-3, that are requested to be subject to fuel price adjustment. Submit the list to the Project Manager for approval by the Pre-construction Conference, using form CSB109_11.

TABLE 109-3
ITEMS SUBJECT TO FUEL PRICE ADJUSTMENT

Original Contract Amount	Maximum Number of Items
$0 to $8,000,000	10
$8,000,001 to $15,000,000	15
Greater than $15,000,000	20

Provide actual diesel fuel, propane fuel and gasoline fuel costs along with the calculations used to determine the costs for the respective contract items. The accumulated diesel fuel, propane fuel and gasoline fuel costs may not exceed 20 percent of the contract unit price without additional justification acceptable to the Project Manager. Items measured on a lump sum basis will not be eligible for fuel price adjustment. No fuel price adjustment will be made for stockpiled materials.

Adjustments will be calculated using the increase or decrease between the base price and the monthly average price at the time the contract items are added to the progress estimate. The base price for the contract will be the average of the high and low price for the five business days before the bid opening. The base price for propane fuel will be the base price for diesel fuel divided by the difference in BTU/hr for each fuel, or 1.5455 BTU/hr. The monthly average price will be the average of the high and low prices on Wednesday of each week in the adjustment period taken from Platt's Oilgram Price Report, or other fuel price report determined by the Department for unleaded gasoline and low sulfur diesel fuel. The average price for propane fuel will be the average monthly price for diesel fuel divided by 1.5455. The adjustment period for fuel price is from the Wednesday of the full week before the beginning of the estimate cycle to the Wednesday of the full week prior to the next estimate cycle. If the estimate cycle extends beyond the monthly estimate period, only the fuel prices from the month in which the item is added to the estimate will be used to generate the average price.

Adjustments will be made only when the monthly average price exceeds $0.25 per gallon more or less than the base price. The adjustments will be for the amount exceeding $0.25 per gallon.

The price adjustment for each type of fuel will be the change in cost from the base price (BP) to the monthly average price (AP) that exceeds $0.25, multiplied by the quantity (Q) of the item added to the progress estimate, multiplied by the fuel cost (FC).

Adjustments will be according to the following formulas:

$$Increase = \left(\frac{AP - BP - 0.25}{BP} \right) * FC * Q$$

$$Decrease = -\left(\frac{BP - AP - 0.25}{BP}\right) * FC * Q$$

Where:
AP = Monthly Average Price
BP = Base Price
FC = Fuel Cost
Q = Quantity

Include only the cost of fuel associated with the approved items in fuel cost (FC). Do not include additional costs related to items such as servicing of equipment, lubricants, tire and ground engaging component wear, depreciation, insurance, storage, licenses, inspection, etc.

Adjustments will be calculated for each type as described without regard to the grade or amount of fuel actually used. The total of the fuel price adjustments will be added to, or subtracted from, the monthly progress estimate.

202.03.1(B) REMOVAL OF SUBSTRUCTURES Page 85 7-3-08

Rescind Part B. Removal of Substructures and replace with the following:

B. Removal of Substructures. Remove substructures outside of the Q2 elevation, as shown on the plans, to 3 feet (915 mm) below the finished ground surface elevation. Within the Q2 elevation, as shown on the plans, remove or cut off piles and substructures 3 feet (915 mm) below the surveyed thalweg (lowest channel bottom) elevation at the bridge. Shape and contour the removal areas to blend with the surrounding terrain.

Do not damage new work removing existing structures.

202.03.1(C)(2) CONCRETE AND MASONRY Page 85 6-1-06

In the first sentence, delete the words Section 203 and replace with Subsection 202.03.3.

202.03.3 REMOVAL OF PAVEMENT, SIDEWALKS, CURBS, ETC. Page 86 6-1-06

Rescind the title of Subsection 202.02.3 and replace with 202.03.3 Removal of Pavement, Concrete, and Masonry.

Rescind the first sentence of Subsection 202.03.3 (that begins with “Remove and dispose …”) and replace with the following:

Remove and dispose of all existing bituminous or portland cement concrete materials to be removed unless otherwise specified.

Rescind the second paragraph (that begins with “Existing Pavement …”) and replace with the following:

Existing materials used for embankment or base gravel must meet the specifications for the particular item. Process bituminous material to be used as embankment to a maximum 6-inch (150 mm) size in its largest dimension. Process concrete material to a maximum 12-inch (305 mm) size in its largest dimension. Do not place the removed bituminous or concrete material in ephemeral drainages or within 100 feet (30 m) of standing water and groundwater wells.

203 EXCAVATION AND EMBANKMENT Page 87 4-8-10

Rescind Section 203 and replace with the following:

SECTION 203
EXCAVATION AND
EMBANKMENT

203.01 DESCRIPTION

This work is the excavation, placing, compacting and disposal of material encountered within the construction limits necessary to construct the project. This is also referred to as grading.

203.01.1 Excavation

A. Unclassified Excavation. Unclassified excavation is excavating and disposing, when required, of material from the right-of-way or construction easement areas except borrow excavation and muck excavation as defined in Subsection 203.01.1.

B. Borrow Excavation. Borrow for embankment construction is Contractor furnished excavation from outside the right-of-way or construction easement areas.

1. Unclassified Borrow.

Use Department approved sources meeting current environmental and cultural resource preservation regulations.

Material from a Department-optioned or Department-owned borrow source may be available at no cost.

The applicable provisions of Subsections 102.06 and 106.02 apply to unclassified borrow.

2. Special Borrow. Special borrow-excavation and special borrow-neat line is the providing and placing of the specified quality of borrow material from designated sources or from other approved sources.

The applicable provisions of Subsection 203.01.1(B) (1) and Subsection 106.02 apply to special borrow-excavation and special borrow-neat line.

C. Unclassified Channel Excavation. Unclassified channel excavation is excavating and disposing of all materials from new watercourses or channels and the widening, deepening, or relocation of existing channels.

D. Street Excavation. Street excavation is excavating and disposal of all material to the street template.

E. Muck Excavation. Muck excavation is removing and disposing of unstable material in cut sections or below the natural ground line in embankment sections.

Material is considered unstable if:

1. It contains soil or organic matter unsuitable for foundation material, regardless of moisture content; and
2. If it cannot be excavated using the same equipment and methods as for unclassified excavation.

Topsoil removed below the natural ground line in embankment sections is muck excavation if the material is determined unstable and cannot be excavated using the same equipment and methods for unclassified excavation.

Excavated unstable material areas will be measured before they are backfilled.

Do not place fill over unstable foundation soils without the Project Manager's approval. Materials placed before approval may be ordered removed and replaced at Contractor expense.

F. Sub-excavation. Sub-excavation is removing unsuitable material from below the plan subgrade elevation as shown or directed.

203.01.2 Embankment

Place and compact excavation in roadway embankments, dikes, areas where unsuitable material is removed, holes, pits, and other roadway depressions. Prepare embankment foundations prior to placing embankment material.

203.02 RESERVED

203.03 CONSTRUCTION REQUIREMENTS

203.03.1 Excavation

A. General. Do not begin grading operations before the area is cleared of vegetation and obstructions under Sections 201 and 202 and erosion controls are placed as specified in the contract.

Excavate without disturbing material and vegetation outside of the slope limits.

Use all suitable material removed from the excavation in embankments, subgrade, shoulders, topsoiling, and other designated locations. Excavated material not used as specified or directed is not paid for.

Sequence excavation of backfill or road finishing material so it is placed into final position as soon as possible. Stockpile suitable material that is not immediately used.

Construct temporary fencing to restrict livestock and vehicular traffic from the work under Subsection 607.03.5.

Replace temporarily removed fence and repair damaged fence to a condition equal to the existing fence at Contractor expense. Confine livestock when fencing is disturbed.

If excavated material from the roadbed is used outside the embankments, furnish and place at Contractor expense, an equal quantity of borrow to replace the material.

Do not dispose of excess or unusable material within the right-of-way limits unless approved by the Project Manager.

Compact the top 8 inches (205 mm) of the subgrade in cut sections under Subsection 203.03.3.

B. Rock Blasting.

1. General. Use and store explosives under Subsection 107.09.

Use current technology in rock blasting to prevent slides, minimize overbreak, and provide smooth cut slope faces free of loose or fractured rock. Design the ignition sequence and blasting pattern with delays to produce maximum relief to the holes nearest the cut slope face.

Temporarily suspend blasting operations if the specified slopes are not produced, nearby residences, structures, utilities, or appurtenances are endangered, or the safety and convenience of the traveling public is jeopardized by fly rock, fragmentation, vibration, air blast, or overbreak.

2. Blasting Plan. Submit the blasting plan before drilling and blasting operations begin and when there is a change in the proposed drilling and blasting methods. Submit the blasting plan on form CSN-55, available from the Project Manager, with the following information:

a. Station limits of proposed blast;
b. Plan of proposed drill hole and delay pattern including free face, burden, and spacing; and
c. Report of hole depth, diameter, burden, spacing, stemming, explosive types, powder factor, and delays.

The blasting plan is to reflect a blast design that provides for the proper drilling and blasting procedures to produce the specified results.

Revise the drilling and blasting methods as necessary to produce the specified results.

3. Scaling. Scale all loose or detached rock and soil masses that create a potentially dangerous situation to the work, workers, or the public. Remove the rock by barring, wedging, equipment, or using light explosive charges. Scale during or after each lift is completed. Scaling and disposing of the scaled materials is incidental to unclassified excavation.
4. Pre-splitting Rock Slopes.
   a. General. Pre-split rock cuts to a smooth plane using loaded, timed, and spaced drill holes.
      Produce a continuous or semi-continuous fracture between drill holes and a stable rock cut by eliminating overbreak in the backslope during primary blasting. Detonate pre-split holes before detonating the production holes.
   b. Drilling. Use drills equipped with mechanical devices that accurately determine the angle the drill steel enters the rock. Do not drill if the devices are missing or inoperative.
      Remove overburden soil and loose or decomposed rock along the top of the excavation to produce a smooth rock surface for drilling.
      Use pre-split hole diameters that are between 2 1/2 inches (64 mm) and 3 inches (75 mm). Drill pre-split holes within 3 inches (75 mm) of the staked collar location. Holes drilled outside the 3-inch (75 mm) tolerance will be rejected and not measured for payment. Drill hole intervals may vary between 24 inches (610 mm) and 36 inches (915 mm). A 30-inch (765 mm) interval is used to estimate the measurement of pre-split contract quantities.
      When the cut height exceeds 30 feet (10 m), an offset from the staked slope line, not to exceed 2 feet (610 mm) is allowed at the top of each lift after the top lift. The actual slope cannot deviate from the plan slope by more than 2 feet (610 mm).
      Control the drilling operations to insure that no hole deviates from the slope plane by more than 9 inches (230 mm) parallel or normal to the slope. Pre-split holes exceeding these limits will not be paid for.
      Drilling 2 feet (610 mm) below ditch bottom to aid removing the toe berm is permitted.
      Extend pre-split holes a minimum of 30 feet (9.2 m) beyond the limits of the production holes or to the end of the cut.
      Maintain the length of pre-split holes for any individual lift at no more than 30 feet (9.2 m). The Project Manager may approve a written request to increase the hole length to a maximum of 60 feet (18.3 m) if it is demonstrated that the above pre-split hole tolerances and a uniform slope can be obtained. If over five percent of the pre-split holes are misaligned in any one lift, reduce the lift heights until the 9-inch (230 mm) tolerance is met.
   c. Blasting. Verify that the drill holes are free of obstructions for their entire depth before placing charges. Take precautions to prevent material from entering the drill holes while placing the charges.
      Drill hole conditions may vary from dry to water filled. Use the type or types of explosives and blasting accessories for the conditions encountered following the manufacturer's recommendations.
      Use explosives with a maximum diameter no more than one-half the diameter of the pre-split hole. Do not use bulk ammonium nitrate and fuel oil in the pre-split holes. Use only standard explosives manufactured specifically for pre-splitting.
      If fractional portions of standard explosive cartridges are used, firmly affix them to the detonating cord to prevent the cartridges from slipping down the cord or bridging across the hole. Space fractional cartridges along the length of the detonating cord at maximum 30-inch (765 mm) centers and adjust spacing to produce the specified results.
      Assemble and affix continuous column cartridge type explosives to the detonating cord following the explosive manufacturer's instructions. Furnish the Project Manager these instructions 24 hours before blasting begins.
      The pre-split hole bottom charge may be larger than the line charges if it does not cause overbreak. Reduce the top charge of the pre-split hole and place it far enough below the collar to avoid overbreak and heaving.
      Stem the upper 3 feet (915 mm) of all pre-split holes below the hole collar with sand or other dry, angular granular material passing a 3/8-inch (9.5 mm) sieve.
      The Contractor may pre-split the slope face before production drilling or pre-split the slope face and production blast at the same time, if the pre-split drill holes are fired simultaneously at least 100 milliseconds before the production blast. Do not delay pre-split holes more than 25 milliseconds, hole to hole, to reduce noise and ground vibration.
      Do not vary the pre-split slope face by more than 1 foot (305 mm), measured perpendicular to the slope, from a plane passing through adjacent drill holes unless otherwise directed.
5. Production Blasting. Drill the row of production blast holes adjacent to the pre-split blast line on a plane parallel to and no closer than 6 feet (1.8 m) to the pre-split blast lines. Do not drill the production hole bottoms lower than the pre-split hole bottoms and with a diameter not greater than 6 inches (155 mm).
   Detonate production holes on a delay sequence toward a free face.
   Stem production holes a minimum of 3 feet (915 mm) or 0.7 times the burden distance, whichever is greater, with sand or other dry, angular granular material passing a 3/8-inch (9.5 mm) sieve.
   Perform production blasting to minimize blast damage to the backslope.
   Production blasting is incidental to and included in the measurement and payment for unclassified excavation.

C. Rock Excavated Below Grade. Excavate all un-yielding materials that require blasting or the use of rippers to at least 6-inches (155 mm) below subgrade within the roadbed limits. Backfill the excavation with specified or approved material. Remove or drain surface rock pockets that trap or pond water.

Rock, removed to a maximum depth of 6 inches (155 mm) below subgrade is measured and paid for as unclassified excavation. Rock removed or backfilling due to over excavating in excess of the 6 inches (155 mm) with approved backfill material is at Contractor expense.

D. Removing Excess Moisture. Rework materials from excavation or borrow areas exceeding two percent of optimum moisture to the specified optimum moisture before use in embankments or as backfill. Costs to remove excess moisture from the material is incidental to the embankment.

Remove excess moisture in the finished roadbed soil, introduced or caused by construction operations, for re-use in the work at Contractor expense. Excessively wet material, caused by the construction operations that cannot be properly compacted must be removed and replaced with suitable material at Contractor expense.

E. Borrow Material. Excluding special borrow, borrow material may be used only after the roadway excavation has been placed in the embankment. If excess borrow is placed creating a waste of excavation, the waste quantity will be deducted from the measured volume in the borrow area.

Provide the Project Manager five calendar days notice before excavating material from the borrow area so that the area may be surveyed. Do not excavate beyond the dimensions and elevations established for the borrow areas. Finish and shape all borrow areas to permit accurate measurements. Reclaim borrow areas meeting Subsection 106.02.5 requirements

F. Roughen Slopes. Roughen slopes as directed.

203.03.2 Embankment

A. General. Do not place stumps, trees, logs, rubbish, vegetation, muck, frozen material, pockets of rock, volcanic ash or other deleterious materials in embankments.

Sod mixed with surface soil and soil containing excessive humus or other organic materials may be spread over the top of embankment slopes Compact embankment, backfill, and embankment foundation areas under Subsection 203.03.3.

Leave the surface of completed embankments in a roughened condition.

B. Embankment at Structures. Do not place rocks, broken concrete, or other solid material in areas where piling is to be driven.

Do not place embankment against any backwall or abutment until the concrete has cured for 10 days or has reached 70 percent of the required strength. Furnish a certified laboratory test report showing the field-cured cylinders meet the required strengths.

The Project Manager may approve early embankment work at backwalls or abutments with beams or girders in place, or that are cantilevered from a fixed footing or cap if the strength requirement is met.

Do not place embankment against un-supported backwalls or U-shaped abutments rigidly connected to the deck until the deck is placed and cured meeting the applicable requirements of Section 552.

The Contractor may submit a method of supporting the structure to permit early placement of embankment against the structure. If approved, all costs of the alternate method are at Contractor expense.

Place embankment in 8-inch (205 mm) maximum layers loose thickness and compact adjacent to structures, around columns and similar structural supports, and on both sides of concrete walls, box type structures, and similar structures. Extend embankment material placed above the excavation limits or ground line a minimum 10 feet (3 m) from the structure or structural support.

Restore, repair, or replace structures or structural members moved or distorted by placing and compacting embankment at Contractor expense.

Compact embankment inaccessible to rollers by mechanical tampers to the density specified in Subsection 203.03.3.

Before placing and compacting backfill, compact at least the top 8 inches (205 mm) of the existing ground under Subsection 203.03.3.

C. Preparation of Embankment Foundations. Bench all embankments placed and compacted on hillsides, against existing embankments, built one-half width at a time, or on slopes 6:1 or steeper when measured at right angles to the roadway centerline. Construct benches in minimum 4-foot (1.2 m) widths. Maintain the horizontal inclination within 5 percent of horizontal. Backfill and compact each bench in maximum 8-inch (205 mm) layers.

Excavate each bench as close to each other as the slope permits. Use approved material excavated from benches in the embankment.

In excavation to embankment transitions where the natural ground slope exceeds 6:1, construct the excavated benches so the natural ground surface is a minimum 12 inches (305 mm) from the top of the subgrade.

Remove frozen earth, snow and ice from the cut or embankment surface and place it outside the slope stakes. Provide the replacement borrow material at no cost to the Department.

Clear the full width of the subgrade of sod and vegetative matter. Scarify the top 8 inches (205 mm) of the embankment foundation and compact under Subsection 203.03.3 before constructing embankments 4 feet (1.2 m) high or less, or embankments placed on soils having less than 95 percent maximum density, determined by MT-210.

If original lightly compacted soils are encountered that exceed 8 inches (205 mm) in depth, remove it to the depth directed. Compact the upper 8 inches (205 mm) of the ground under Subsection 203.03.3. Place the removed material in the embankment or use it for topsoil as directed. Material useable as topsoil may be placed alongside the roadway after compaction is completed.

D. Earth Embankment. Place earth roadway embankment in uniform horizontal layers not exceeding 8 inches (205 mm) loose measurement and compact under Subsection 203.03.3. Continuously level, work, and maintain moisture to compact to the specified density. Uniformly work the entire surface of each layer.

Work each layer of earth embankment using a tandem type construction disk with a maximum disk spacing of 14 inches (355 mm) and a minimum worn disk diameter of 25 inches (635 mm). Larger disks may

be used if the ratio of disk spacing to disk size is comparable to the above dimensions. Leave the embankment slopes in a roughened condition.

E. Rock Embankment. When the excavated material contains more than 25 percent rock by volume, 6 inches or larger (155 mm) in its greatest dimension, place the embankment in layers 2 inches (50 mm) thicker than the maximum size rock in the material not to exceed 24 inches (610 mm) loose thickness.

Individual rocks and boulders larger than 24 inches (610 mm) in diameter may be placed in the embankment if the rocks do not exceed 48 inches (1.2 m) vertical height after placement, are evenly distributed, and are spaced to allow placing and compacting of the soil in between the rocks.

Place and compact the upper 2 feet (610 mm) of the embankment in maximum 8-inch (205 mm) layers loose thickness as specified in Subsection 203.03.2(D).

Dump and work rock from excavations to the stream face when the embankments are adjacent to streams or channels. Prevent the rock from entering the stream. This work is incidental to unclassified excavation.

F. Embankment Over Swampy Areas. On low, swampy ground incapable of supporting haul equipment, construct the lower part of the embankment by dumping successive loads of uniformly distributed material in layers thick enough to support the equipment. Place subsequent layers under Subsection 203.03.2 (D) or (E) as directed.

G. Disposal of Unsuitable or Excess Material. If disposal of excess or unusable excavation within the right-of-way limits is approved by the Project Manager, slope and shape all disposal areas to blend into the surrounding terrain and meet the requirements of Subsections 106.02.5 and 107.11.

203.03.3 Moisture and Density Requirements

Compact each layer of material to the in-place density requirements of Table 203-1 for the method of moisture and density control used. The moisture and density control is the Proctor method or the Zero Air Voids method, determined by the Project Manager.

If proctors are used for density control, the Contractor may make a written request to the Project Manager to compact the soils at a lower moisture content. Identify the soil class in the request. The Project Manager may approve the request provided a Department investigation determines the lower moisture content is not detrimental to the soil for the given application. For A-1 material in embankments, MT 218 and MT 230 tests will be used.

Compact rock embankments that cannot be tested by Montana Test Methods MT-212, MT-215, and MT-218 (Proctor Method) or MT-229 (Zero Air Voids Method) with compaction equipment and hauling and spreading equipment. Use grid rollers, pneumatic-tired rollers, vibrating rollers, vibrating compactors, or self-propelled tamping rollers. Do not use sheepsfoot rollers unless approved. Use water as required.

TABLE 203-1
COMPACTION REQUIREMENTS

COMPACTION CONTROL METHOD		
Material Compacted	Proctor	Zero Air Voids
	Test Methods: MT-210, MT-230, MT-212, MT-215, MT-218	Test Method: MT-229
Earth Embankment Including All Backfills Top 8 Inches (205 mm) of Subgrade in Cut Sections Culvert Foundations Top 8 Inches (205 mm) of Embankment Foundations Backfill Foundations	Minimum 95% of Maximum Density at Optimum Moisture ± 2%	Less than 10% Air-filled Voids

203.03.4 Sloping and Finishing

A. Sloping. Finish and shape all cut slopes, ditches, embankments, and structure berms to a uniform, rough textured surface. Scarify smooth slopes.

Conduct slope roughening in accordance with the plans and Detailed Drawings. Slope roughening is a part of slope construction and is not measured for payment.

Where roadway slopes are not completed to the planned or directed lines and the material from the backslope erodes, sloughs, or slides due to incomplete erosion control measures or the Contractor's operations, the removal of the material and restoration of the slope is at Contractor expense.

Where roadway slopes are completed to the plan or directed lines, all required erosion control devices are in place as specified, and the material from the completed slopes erode, slough, or slide onto the roadbed before acceptance of the work, through no fault of the Contractor, the removing of the slide material, potential slide material, and the drainage excavation is paid for at an agreed unit price or on a force account basis under Subsection 109.04.

When directed, widen cuts and flatten slopes to obtain additional excavation for embankments or to increase slope stability. The Project Manager may steepen stable rock slopes. This work is measured and paid for under the grading item unless it requires non-contract construction methods increasing costs that are considered extra work under Subsection 104.03.

B. Finishing. Finish the entire roadbed to the final elevations specified.

203.03.5 Maintenance of Constructed Roadway

Maintain the roadway during construction so it is continuously well drained.

Prevent erosion damage to embankments and stream siltation under Section 208. Keep all drainage ditches and structures open and free from debris until the final inspection is approved.

If grading work is suspended, blade smooth and grade the entire roadway area to prevent water from collecting or ponding on the roadway. Maintain the roadway during suspension periods to the specified grade and cross section at Contractor expense.

Maintain erosion and siltation control devices meeting the contract requirements at all times.

203.03.6 Topsoil - Salvaging and Placing

Remove sufficient amounts of topsoil from the excavation and embankment foundations to ensure replacement quantities are available to cover all disturbed areas with four inches (100 mm) of topsoil.

Place topsoil on the completed graded roadway to the lines, grades, and elevations specified.

Unless directed by the Project Manager, place topsoil on all slopes, excluding slopes 2:1 or steeper. Place topsoil to an average 4-inch (100 mm) loose depth on the base course surfacing inslope. Uniformly spread what is available over the remainder of the disturbed areas. Finish the disturbed areas in accordance with the requirements of Subsection 610.03.2.

Stockpile topsoil at acceptable selected locations within the right-of-way. When construction operations do not permit stockpiling within the right-of-way, make arrangements for stockpile sites outside the right-of-way at no additional cost to the Department.

Construct stockpiles so drainage is maintained and topsoil is easily reclaimed. Provide erosion controls following best management practice.

In the event that construction sequencing prevents replacement of topsoil over all disturbed areas prior to final paving, reserve adequate quantities to cover the exposed base course surfacing inslope as shown in the Detailed Drawings.

203.03.7 Limitation on Grading Operations

The maximum length allowed to be disturbed at one time within the project limits is 2.0 miles (3200 meters) of clearing and grubbing and 2.0 miles (3200 meters) of borrow, excavation and embankment.

The Project Manager may modify the restriction when soil characteristics, Contractor operations or both, indicate that a smaller or larger area is acceptable. For long or complex projects, the Contractor may have several separate grading operations working, where the Project Manager may apply the limit to each individual operation, provided finishing, mulching, and seeding closely follow the rough grading operations at each location. Use the specified pollution controls at each individual location.

203.04 METHOD OF MEASUREMENT

203.04.1 Excavation

The quantities of unclassified excavation, unclassified borrow excavation, special borrow-excavation, unclassified channel excavation, street excavation, sub-excavation, and muck excavation are measured for payment in cubic yards (cubic meters) as surveyed or calculated under Subsection 109.01.

The Department will provide the initial measurement at no charge for the following specific work areas:

1. In slide areas determined by the Department not to be the fault of the Contractor;
2. In excavated areas authorized by the Project Manager, outside the staked lines and grades; and
3. In un-staked areas such as borrow areas, muck excavations, sub-excavations, and un-staked excavations authorized by the Project Manager.

These areas of excavation and borrow are measured in their original position under Subsection 109.01. Disposal of excess or unusable excavation is not measured for payment.

The quantities of special borrow-neat line for payment are calculated in its final position under Subsection 109.01 with no allowance for shrink or swell.

Either the Department or the Contractor may request re-measurement of specific work areas, or the entire project, if there is disagreement over the accuracy of quantities computed from the staked lines and grades. The party requesting the re-measurement is responsible for all costs associated with the re-measurement. Department staff may perform the re-measurement, in which case, the rate for determining the costs for performing the work are based upon the original contract amount, and the daily charge established in Subsection 108.08, Table 108-1. An independent third party acceptable to the District Construction Engineer, and under the direction of a professional land surveyor registered in Montana, may also be used to perform the re-measurement.

Excavation is eligible for a second payment under the following conditions:

1. A second handling is required;
2. The excavated material meets all the contract requirements for the second usage;
3. The second payment item quantity is calculated in-place in its final disposition, or computed from plan dimensions. Items that require a second field measurement, such as special borrow-excavation, are not eligible for a second payment;
4. The contractor makes up any shortfall in excavation, at no cost to the Department, caused by the second use. The material making up the shortfall is subject to approval by the Project Manager; and
5. The contractor is responsible for the haul, balance lengths, balance points or other foreseen or unforeseen project constraints. No payment will be made for any additional costs.

Authorized excavation of rock, shale, muck, or unsuitable material below grade necessary to provide the designed thickness of backfill is measured for payment. If the designated bottom plane of the excavation falls within a layer of rock, the below-grade excavation to the bottom of the layer, not exceeding 6 inches (150 mm) below grade, is considered authorized and is measured for payment.

Rock excavation exceeding 6 inches (150 mm) below grade is not measured for payment. If the nature of the material, the thickness of the layers or strata, and method of operations make it practical to excavate only to the plan depth, any material removed below plan depth is not measured.

Measurements are made for unusable materials excavated and removed.

Useable material temporarily removed and replaced for Contractor convenience is not measured for payment.

Removal and disposal of unusable materials from borrow areas is not measured for payment. Special borrow removed from areas before surveying is not measured for payment.

The actual quantities of plan and approved sub-excavation are measured and added to the quantities of unclassified excavation for payment.

Material authorized for removal that cannot be excavated by the methods used for the unclassified excavation is measured and paid for as muck excavation.

Muck excavation reworked under Subsection 203.03.1(D) is measured and paid for as unclassified excavation for the second handling.

When the contract does not contain a bid item for muck excavation and an area is determined unstable under Subsection 203.01.1(E), the muck excavation quantity is measured and paid for at an agreed price or force account basis under Subsection 109.04. Measurement and payment for muck excavation at the agreed price includes all excavating and hauling, disposing of all stumps, logs, and other debris encountered in the excavation, all pumping and de-watering required, and finishing of the planned disposal areas.

Unclassified excavation allowed for pre-split drill equipment clearance is calculated from the area bounded by the plan slope and lines parallel to plan slope, offset 2 feet (610 mm) for each 50-foot (15.2 m) increment in vertical cut height. The quantity for drill equipment clearance where the cut slope height is less than 50 feet (15.2 m) is not measured for payment.

Excavation used as select or stockpiled select material is measured by the cubic meter in its original position.

Removed and placed stockpile material is measured using the volume in its original excavated position.

Channel excavation is measured and paid for as unclassified channel excavation.

Street excavation is measured and paid for as unclassified excavation unless the contract has street excavation as a bid item. Disposal of material or other items within the limits of the street excavation are not measured for payment.

203.04.2 Drill Pre-splitting Holes

Drill pre-splitting holes are measured by the foot (meter). The measurement is made from the rock surface to the roadway grade or to a predetermined bench elevation. The quantity of drill pre-splitting holes shown in the contract is not guaranteed, and the Department reserves the right to increase or decrease this item with no adjustment in the contract unit price.

203.04.3 Embankment in Place

The embankment quantities measured in cubic yards (cubic meters) for payment as Embankment In Place include the following:

1. The actual quantities of roadway embankment measured, above the original ground line under Subsection 109.01, with no volume adjustments made for shrinkage, compaction, or subsidence.
2. The topsoil replacement quantity, measured in the topsoil stockpiles.
3. Excavation of unusable material and sub-excavation in the contract or directed by the Project Manager in its original position.

203.04.4 Compaction

Work and materials to compact embankment material and backfill to the specified density is not measured for payment.

203.04.5 Topsoil

Excavation of topsoil material from its original position, loading, hauling, stockpiling, and removal from the stockpile and spreading on the designated areas is measured for payment by the cubic yard (cubic meter) in the stockpile before final placement.

Before measurement, shape and smooth each stockpile into the smallest practical area. Haul is not measured for payment.

Topsoil removed from cut areas is not deducted from the grading quantities.

Measurement is made as if the topsoil had not been removed.

Topsoil removed from embankment areas and from borrow areas, excluding Contractor-optioned under Section 106, is measured under the bid item Topsoil - Salvaging and Placing.

203.05 BASIS OF PAYMENT

Payment for the completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Unclassified Excavation	Cubic Yard (cubic meter)
Unclassified Borrow Excavation	Cubic Yard (cubic meter)
Special Borrow	Cubic Yard (cubic meter)
Unclassified Channel Excavation	Cubic Yard (cubic meter)
Digout Excavation	Cubic Yard (cubic meter)
Muck Excavation	Cubic Yard (cubic meter)
Drill Pre-splitting Holes	Foot (meter)
Embankment in Place	Cubic Yard (cubic Meter)
Topsoil - Salvaging and Placement	Cubic Yard (cubic meter)
Street Excavation	Cubic Yard (cubic meter)

Payment at the contract unit prices is full compensation for all resources necessary to complete these items of work under the contract.

207.03.6 FOUNDATION PREPARATION Page 104 3-12-09

Rescind the second paragraph (that begins with "Remove unstable or …") and replace with the following paragraph:

Remove unstable or unsuitable material encountered below the excavation floor elevation and replace with material meeting Subsection 701.04.2. Cover with bedding material meeting Subsection 701.04.1 as directed. Substitute excavatable flowable fill as bedding material for concrete and steel pipes only with the Project Manager's prior approval. A request to use excavatable flowable fill for any other pipes or application must be submitted a minimum of 5 working days prior to use. The Project Manager will investigate unstable pipe installations requiring 4 feet (1.2 m) or more of foundation material.

208.03.3 LIMITATIONS ON GRADING OPERATIONS) Page 106 5-13-10

Rescind Subsection 208.03.3.

208.03.6 INSPECTIONS (GENERAL STORM WATER PERMITS) Page 108 10-9-08

Rescind section 208.03.6 and replace with the following:

Conduct inspections of BMP's according to the MPDES/NPDES and the associated General Permit for Storm Water Discharges Associated with Construction Activity. Provide one copy of the signed Storm Water Pollution Prevention Plan (SWPPP) inspection report to the Project Manager.

- On the 1st and 15th of each month when the SWPPP requires inspection every 14 days;
- On the 15th of the month when the SWPPP requires inspection monthly;
- Within three calendar days of a storm event of 0.5 inches or greater that requires an inspection within 24 hours.

Use the most current version of the Department's inspection form, CSB208_03_6 when the Department and the Contractor are co-permittees. Use the Department's form or another form that conforms to the requirements of the General Storm Water Discharge Permit when the Contractor is the sole permit holder.

Failure to conduct BMP inspections and submit inspection reports renders the BMP's unacceptable. No payment will be made for BMP's installed and the total paid to date on progress estimates for BMP's will be deducted on the next monthly progress estimate until the inspection reports are completed and received by the Project Manager.

Repair or replace damaged, inadequate, non-functioning or non-conforming devices or BMPs.

Immediately report potential noncompliance in accordance with applicable regulations, guidance, and permit conditions. The Contractor is wholly responsible for all violations including but not limited to those that result during the times when no inspections are conducted, inspection report forms are not submitted, or required maintenance of BMP's is not performed.

208.05 BASIS OF PAYMENT (TEMPORARY EROSION CONTROL) Page 108 1-31-08

Add the following paragraph after the second paragraph.

Payment for completed and accepted temporary erosion/sediment control devices will be made under one of the following two categories:

1. Category #1 – New Installation. When a device is new and used for the first time it will be paid at 100 percent of the rate schedule.
2. Category #2 – Reuse. When a previously used BMP material that meets contract specifications is placed in a new location it will be paid at 75 percent of the rate schedule.

301.03.1(B) ACCEPTANCE SAMPLING AND TESTING (AGGREGATE SURFACING) Page 123 1-15-09

Rescind third paragraph (that begins with “The largest quantity …”)

301.03.1(B) ACCEPTANCE SAMPLING AND TESTING (AGGREGATE SURFACING) Page 123 7-31-08

Rescind the first Sentence (that begins with “The Project Manager will …”) and replace with the following:

The Project Manager will randomly select samples taken by the Contractor and witnessed by an Inspector, for gradation and fracture testing from processed material in its final position on the roadway under MT-201. Samples for other tests will be taken at the point of production.

301.03.1(B) ACCEPTANCE SAMPLING AND TESTING (AGGREGATE SURFACING) Page 123 10-1-06

Delete “Cleanness Value ……. MT-228” as an acceptance test.

301.03.1(C) ACCEPTANCE (SAMPLING, TESTING, AND ACCEPTANCE) Page 124 2-11-10

Rescind the first paragraph and replace with the following:

C. Acceptance. Surfacing aggregates are evaluated for gradation and mechanical fracture on a lot-by-lot basis. The upper and lower limits in the gradation tables in Section 701 are the upper and lower limits in the evaluation formulas. The specified minimum fracture is the lower limit.

Rescind the last sentence in the second paragraph (that begins with “When the quality…”).

301.03.5(D) COMPACTION (AGGREGATE SURFACING CONSTRUCTION) Page 126 1-31-08

Remove “MT-210” from the last sentence (that begins with “Densities will be determined …”).

301.03.7 TRAFFIC GRAVEL Page 127 4-8-10

Add the following after the last paragraph:

Milled and/or pulverized plant mix material may be used as traffic gravel under the following conditions:

1. Submit in writing a detailed plan showing locations for the use of the milled or pulverized material. Include an updated traffic control plan and stockpile locations.
2. Place all milled/pulverized material below the finished subgrade elevation unless approved in writing by the Project Manager.
3. Do not mill/pulverize areas outside the planned limits unless approved in writing by the Project Manager.
4. 100% of the milled/pulverized material must pass the 2” sieve.

301.05 BASIS OF PAYMENT Page 129 5-13-10

Add the following sentence after the last sentence of the third paragraph (that begins with “Sale of excess…”) :

If milled/pulverized plant mix is used on any portion of the project, no payment for excess traffic gravel will be made.

302 BITUMINOUS PAVEMENT PULVERIZATION Page 131 4-8-10

Rescind Section 302 and replace with the following:

SECTION 302
BITUMINOUS PAVEMENT PULVERIZATION

302.01 DESCRIPTION

This work consists of processing the existing plant mix surfacing with existing crushed aggregate course, additional crushed aggregate course, or combination of these to restore the roadway section.

302.02 MATERIALS

Furnish crushed aggregate course meeting the requirements of Subsection 701.02.1 and one of the following Subsections:

Crushed Aggregate Course Type “A” Grade 5 .....701.02.4
Crushed Aggregate Course Type “A” Grade 6 .....701.02.4

302.03 CONSTRUCTION REQUIREMENTS

302.03.1 Pulverization

Pulverize the bituminous surfacing to the depth(s) specified in the contract. Pulverize the existing material so that 100 percent by weight passes a 2-inch (50 mm) sieve.

302.03.2 Equipment

Equipment used to pulverize the existing surfacing must not reduce the aggregate size in the existing surfacing.

302.03.3 Mixing

Add crushed aggregate course as necessary to construct the roadway to the specified typical section and profile grade. Uniformly mix the pulverized material and crushed aggregate course by pugmilling or by using the pulverization equipment.

302.03.4 Compaction

Compact the pulverized mixture to maximum 8 inch (200 mm) compacted lifts to 98 percent of the target density. The target density will be determined by one of the following methods:

A. Pugmill Mixing. MT-230 determines maximum density when the pulverized plant mix and crushed aggregate course are blended at a constant ratio by pugmill. The initial target density is the average of the maximum density of at least two tests on samples representing the material to be compacted.
B. In-place Mixing. MT-219 determines maximum density when in-place pulverized plant mix and crushed aggregate course mixtures are combined at varying ratios.

The Project Manager will determine target densities and moisture corrections. A new target density will be established if the ratio of pulverized material and crushed aggregate course change by more than 20 percent or the Engineer determines the pulverized material characteristics or site conditions change.

302.03.5 Testing and Acceptance

Each lift of pulverized mixture material will be divided into 2000-foot long (610 meter) sections. The in-place dry density of each lift will be determined within each section at ten randomly selected locations. The average of the ten tests must exceed 98 percent of the target density with no more than two out of the ten tests being less than 98 percent of the target density.

Be responsible for controlling compaction and all necessary quality control testing.

Notify the Project Manager when compaction is complete on a section so it can be tested.

Re-compact sections not meeting density requirements. Re-compacted sections will be tested at ten new random locations.

Compaction and testing will continue until the section meets density requirements.

302.04 METHOD OF MEASUREMENT

302.04.1 Aggregate

Virgin crushed aggregate course is measured by the ton (metric ton) under Subsection 301.03.2(C) or by the cubic yard (meter).

302.04.2 Pavement Pulverization

Pavement pulverization is measured by the square yard (square meter) based on the bottom width of the pulverized material. The contract unit price may be adjusted if the average pavement depth varies by more than 0.10 foot (30 millimeters) from plan and the Project Manager issues a written order to increase or decrease the pulverization depth.

302.05 BASIS OF PAYMENT

Payment for the completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Crushed Aggregate Course	Ton (metric ton) or Cubic Yard (cubic meter)
Pavement Pulverization	Square Yard (square meter)

Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

304.02.1 PORTLAND CEMENT Page 135 3-1-07

Rescind Subsection 304.02.1 and replace with the following:

Use Portland cement meeting AASHTO M85 or ASTM C150, Type I or Type II requirements. Blended hydraulic cement that conforms to one of the following may be substituted:

- ASTM C595 Type IP or Type IP(MS)
- ASTM C1157 Type GU or Type MS

304.03.1(C) AGGREGATE (COMPOSITION AND PROPORTIONING) Page 135 3-12-09

Rescind 304.03.1(C) Aggregate.

401.03.6 SURFACE CONDITIONS, WEATHER LIMITATIONS, AND PAVING DATES Page 151 4-8-10

Rescind the seventh paragraph and replace with the following:

No payment is made for the plant mix or asphalt on progress estimates between November 1st and April 15th for partial width or thickness of the typical section. Promptly repair damage to all partial width or thickness of plant mix surfacing used by traffic during this period for any reason including suspension of work due to adverse weather at Contractor expense.

Rescind the eighth paragraph and replace with the following:

Provide all interim traffic striping and traffic control required to maintain partially completed pavement at Contractor expense.

401.03.10 SPREADING AND FINISHING Page 152 3-1-07

Delete the third paragraph (that begins with “Place plant mix surfacing…”).

401.03.11 CONSTRUCTING JOINTS Page 153 3-1-07

Rescind the second sentence of the fourth paragraph (that begins with “If these locations …”) and replace with the following:

Obtain approval from the Project Manager to construct the joint at any other location.

Add the following paragraph after the sixth paragraph:

It is preferred that exposed longitudinal joints between driving lanes be avoided by constructing abutting passes equally by the end of paving each day. If an exposed longitudinal joint remaining at the end of a day’s paving is not located outside of the temporary driving lines to be occupied by traffic, delineate and sign the exposed joint at no additional cost to the Department. Obtain the Project Manager’s prior approval of the delineation and signing.

401.03.12(A) COMPACTION Page 153 1-31-08

Remove the second paragraph (that begins with “Complete compaction rolling …”) and replace with the following:

Complete compaction rolling within the temperature range recommended by the asphalt binder supplier included in the mix design. Suspend paving operations when compaction rolling damages the new pavement

402.03.2(B) ASPHALT SAMPLING (QUALITY ASSURANCE SAMPLING) Page 157 4-8-10

Rescind the fourth paragraph (that begins with “The Project Manager…”) and replace with the following:

The Project Manager will randomly designate the time of sampling based on the tons (metric tons) of asphalt cement incorporated into the completed mix produced. The approximate quantity of asphalt cement represented by each sample is 25 tons (25 mt). The Project Manager may require additional samples and testing.

Rescind the first sentence in the fifth paragraph (that begins with “Six samples represent…”) and replace with the following:

Six samples represent approximately 150 tons (150 mt) of asphalt cement and constitute a lot whenever production schedules or material continuity permit.

402.03.5 ACCEPTANCE Page 158 12-27-07

Delete part B, “Asphalt Cement Penetration (Quality Assurance)”.
Delete part C, “Failures Other Than Asphalt Cement Penetration (Non-quality Assurance)”.

402.03.8A PERFORMANCE GRADED ASPHALT BINDER (PGAB) Page 160 10-7-10

Delete Part A of 402.03.8 (That begins with “A. Test Results. Provide…”)

403.02(A) MATERIALS (CRACK SEALANT) Page 163 2-11-10

Rescind the first sentence and replace with the following:
A. Crack Sealant. Use sealant meeting the specifications in Table 403-1:

403.03.4 SEALING Page 164 9-9-10

Rescind the last paragraph (that begins with “All cracks sealed…) and replace with the following two paragraphs:

Seal previously repaired cracks to restore water resistance. Remove any dust, dirt, loose materials, or moisture from the area to be sealed before applying sealant. Spread and smooth the sealant as required to seal the reservoir, but do not exceed 2 inches of spread sealant on the roadway.

Apply blotter material to all sealed cracks.

407.02.1 BITUMINOUS MATERIAL Page 169 3-1-07

Delete the fourth paragraph (that begins with “The Contractor may …”) and replace with the following:

The Contractor may substitute CSS-1, CSS-1h, or SS-1h emulsified asphalt for SS-1 emulsified asphalt for tack coat.

409.01.1 CONTRACT TIME Page 171 7-3-08

Add the following after the last sentence of the third paragraph (which begins with “Time charges according…”)

In cases where seal coat and pavement marking application are the only remaining items of work as of August 21, contract time will not be charged after August 20 if seal coat work is not performed. Contract time will be charged according to Subsection 108.07.3, beginning on the day seal coat work begins, from August 21 through August 31 if seal coat work is performed.

Submit written notice to perform seal coat work from August 21 through August 31.

409.03.2 AGGREGATE AND BITUMINOUS MATERIAL APPLICATION REATES Page 172 6-24-10

Rescind the second sentence of the first paragraph (that begins with “Submit the following…”) and replace with the following sentence:

Submit the following for informational purposes before starting full production or any time the source of aggregate or bituminous material changes:

Rescind the first sentence of the second paragraph (that begins with “Before starting full”…”) and replace with the following sentence:

Before starting full production or after changing sources of either aggregate or bituminous material, complete a test section at least 2000 feet (0.6 km) long to verify the following:

409.03.3 SEASONAL AND WEATHER LIMITATIONS (SEAL COAT) Page 172 12-18-08

Rescind Subsection 409.03.3 and replace with the following:

409.03.3 Seal Coat Limitations
The following conditions govern seal coat work:
1. Perform seal coat operations between May 1 and August 31.
2. Do not perform seal coat work during the 48-hour period immediately preceding a holiday or a holiday weekend except for pilot car operation as specified in Subsection 618.03.11.
3. Perform seal coat work when both the ambient and pavement surface temperatures meet the bituminous material supplier's recommended temperatures.
4. Stop seal coat work at least 1/2 hour before sunset, to include equipment off of the roadway and placement of traffic control devices for non-construction activities.
5. Do not apply bituminous material to damp or wet roadway surfaces.

409.03.5 SURFACE PREPARATION Page 173 9-23-10

Rescind Subsection 409.03.5 and replace with the following:

409.03.5 Surface Preparation

Do not apply bituminous material unless the roadway surface is free of all dust, dirt, and foreign material. Remove excess crack seal blotter material placed under the contract prior to seal coat operations.

409.03.6 APPLICATION OF FOG SEAL Page 173 3-12-09

Rescind Subsection 409.03.6.

409.03.7 APPLICATION OF SEAL COAT MATERIALS Page 173 3-1-07

Rescind the third sentence of the second paragraph (that begins with "Locate longitudinal …") and replace with the following two sentences:

Locate longitudinal joints at the centerline or lane line. Obtain approval from the Project Manager to construct the joint at any other location.

409.03.8 WARRANTY (SEAL COAT) Page 173 10-7-10

Rescind 409.03.8 and replace with:

The Contractor warrants the seal coat work. If the seal coat experiences chip loss, tracking, flushing or bleeding, at any time between the date the seal coat is completed and the first Wednesday in December of the same calendar year, perform repairs to the seal coat, and replace pavement markings covered by the repairs at no additional cost to the Department. Areas of cover material loss determined to result from means beyond the Contractor's control (snow plow damage, tire chain damage, or others) are not considered under these warranty requirements. Final determination regarding cover material loss will be made by the Engineer. When repairs are deemed necessary, reference is made to the "MDT Seal Coat Warranty Administration Guide". Submit a detailed repair plan to the Project Manager for approval within 14 calendar days of notification of required repairs. The repair plan must address the area of failure and transitions required to ensure a uniformly bonded, smooth surface. Make warranty repairs in accordance with the provisions of this specification when performing warranty work. furnish traffic control meeting Section 618 requirements at no additional cost to the Department.

411.03.1 EQUIPMENT (COLD MILLING) Page 179 4-8-10

Delete the second paragraph (that begins with "Use cold milling…") and delete items 1. and 2.

411.03.3 (A) MILLING Page 179 4-8-10

Rescind and replace 411.03.3 (A) with the following:

A. Connections. Mill the existing bituminous surfacing from bridge decks, bridge approaches, cattle guards, and project connections at the locations specified in the contract or as directed by the Project Manager.

Bridge Decks

- Mill the depth shown in the contract or as adjusted to meet field conditions.

Bridge Ends

- Mill full depth from the bridge end out for a distance of 30 feet (10m) prior to the milling taper.
- For milling depths less than or equal to 0.35 feet (105 mm), mill a taper distance of 200 feet (60 m).
- For milling depths greater than 0.35 feet (105 mm), mill a taper distance based on a rate of 30 feet (10 m) per 0.05 feet (15 mm) of milling depth.

Cattle Guards or Railroad Crossings

- Mill full depth from the cattle guard or railroad crossing out for a distance of 15 feet (5 m) prior to the milling taper.
- Mill a taper distance of 50 feet (15m).

Project Connections

- For milling depths less than or equal to 0.35 feet (105 mm), mill a taper distance of 200 feet (60 m).
- For milling depths greater than 0.35 feet (105 mm), mill a taper distance based on a rate of 30 feet (10 m) per 0.05 feet (15 mm) of milling depth.

411.03.3 (B) MILLING Page 179 9-9-10

Rescind Subsection 411.03.3 (B) and replace with the following:

B. Milling at Other Designated Areas. Mill the existing pavement at the locations, widths and depths specified. The depth is measured below the existing pavement plane projected from points on un-distorted pavement near the centerline and the edge of the driving lane.

551.03.2(A) DESIGN (COMPOSITION OF CONCRETE) Page 200 7-3-08

Rescind the first Sentence of Number 4 Part (d) (that begins with “Ground granulated …”) and replace with the following:

d. Ground granulated blast furnace slag may be included in the mix design for up to 25 percent by weight of the total cementitious material.

551.03.7(A)(4) FLOWABLE FILL (TESTING AND ACCEPTANCE OF CONCRETE) Page 208 3-1-07

Add the following paragraph at the end of Subsection 551.03.7 (A) (4) Flowable Fill:

Cover the flowable fill trench with steel plates of sufficient thickness to hold traffic if the trenched area is opened to traffic prior to meeting the required strength listed in part b) above. Anchor the plates to prevent movement from traffic.

552.03.9(A) GENERAL (COLD WEATHER CONCRETING) Page 218 3-27-08

Rescind the first sentence (that begins with “Assume all…”) and replace with the following:

A. General. Assume all risk for placement and cure of concrete during cold weather.

552.03.12(E4) BRIDGE DECK SURFACE TEXTURE Page 223 9-23-10

Rescind 552.03.12, Part (E. 4.) and replace with the following:

E. Concrete Bridge Decks. Finish deck slabs by the machine method, excluding small or irregularly shaped areas where a machine is impractical.

4. Bridge Deck Surface Texture. Perform transverse deck grooving prior to allowing traffic on the new deck. After the Project Manager has approved the finished deck surface and concrete has cured for the specified cure period, saw cut transverse grooves into the finished deck. Use grooving equipment capable of saw cutting ⅛" (3 mm) ±1/16" (1 mm) wide, 3/16" (5 mm) ±1/16" (2 mm) deep at 1¼" (30 mm) ±1/16" (2 mm) center-to-center spacing. Do not overlap grooves during succeeding passes. Terminate grooves 1 foot (.3 meter) from the face of rail or face of barriers and 4" (.1 meter) from the paving notch, guard angles or expansion joints.

552.03.12(E6) SURFACE SMOOTHNESS Page 223 9-23-10

Rescind and replace the first sentence of the first paragraph (that begins with “The finished Surface…”) with the following sentence:

The finished surface must not vary more than 3/16-inch (5 mm) from a 10-foot (3 m) straightedge placed parallel to the roadway centerline.

552.04 METHOD OF MEASUREMENT Page 227 9-23-10

Add the following paragraph at the end of 552.04:

Transverse Deck Grooving is measured in square yards (square meters) for the actual area grooved.

552.05 BASIS OF PAYMENT Page 228 9-23-10

Rescind and replace the Pay Item and Pay Unit tables with the following:

Pay Item	Pay Unit
Concrete	Cubic Yard (cubic meter)
Transverse Deck Grooving	Square Yard (square meter)

555.03.3 PLACING AND FASTENING (REINFORCING STEEL) Page 246 9-1-06

Rescind the tenth paragraph (that begins with “Use plastic-coated …”) and replace with the following:

Use plastic-coated tie wires or tie wires coated with another inert coating approved by the Engineer to tie the coated bars in place.

556.03.1 PRE-QUALIFICATION Page 249 12-17-09

Rescind 556.03.1 Pre-qualification and replace with the following:

556.03.1 Pre-qualification for steel fabricators

Use metal fabricators that are pre-qualified under the AISC Quality Certification Program for the items listed below. Items not listed may be fabricated by non-certified shops.

AISC has quality certification in the following categories:

- Standard for Steel Building Structures (STD). This certification applies uniformly to all building fabricators, regardless of project complexity.
- Simple Steel Bridge Structures (SBR). The certification is typically specified for unspliced rolled beam bridges.
- Major Steel Bridges (CBR). The certification is typically specified for large span bridges. Main members are typically fabricated girders that must be spliced with a welded or bolted connection.

A. Certification Requirements

1) Use fabricators having Category CBR certification to fabricate the following:

a. Fracture critical members and attachments. Fabricators must have the Fracture Critical Endorsement (F).

b. Main members, (including spliced rolled beams).
c. Welded floor beams.
d. Diaphragms for horizontally curved girders.

2) Use fabricators having Category SBR certification to fabricate the following:
a. Non-spliced rolled beams.
b. Non-spliced floor beams.
c. Diaphragms for straight girders (does not include diaphragms used for concrete beams).

3) Use fabricators having a Category CBR, SBR, or STD certification to fabricate the following:
a. Modular expansion joints.
b. Steel grid decking.
c. Overhead sign bridge and cantilever sign structures.
d. Lighting poles and anchor bases.

559.02.2 FURNISH PILE Page 269 2-19-09

Rescind the second paragraph (that begins with "The specified lengths…") and replace with the following:

The specified lengths are those required below cutoff. Adjust lengths for the difference between the cut off length and the pile position in the driving equipment and as necessary to meet the requirements of Subsection 559.02.5. Increase pile lengths 1.0 foot (300 mm) for steel pile. Remove and dispose of excess pile length after the pile is driven.

559.02.4 SPLICING PILES Page 269 2-19-09

Rescind the first sentence of the first paragraph (that begins with "Splice piles driven…") and replace with the following:

When directed by the Project Manager, splice piles driven to plan grade that do not obtain the required driving resistance and continue driving until the required capacity is obtained.

559.02.5 HOLES IN PILING Page 269 2-19-09

Add the following subsection:

559.02.5 Holes in Piling

Pile segments with one drilled hole having a diameter of 7/8 inch (22 mm) or less in any cross-section may be incorporated into the finished structure. Pile with more than one hole in a cross-section, flame cut hole(s), or a hole greater than 7/8 inch (22 mm), must be cut off to remove the hole(s).This requirement does not apply to holes drilled for attaching dynamic testing equipment, holes shown in the plans or holes within 12 inches (305mm) of the cutoff elevation.

559.03.2 EVALUATION OF PILE DRIVING EQUIPMENT Page 271 5-12-11

Rescind Subsection 559.03.2 and replace with the following:

559.03.2 Evaluation of Pile Driving Equipment

The Department will evaluate pile-driving equipment provided by the Contractor. The equipment must have the capability to drive the project pile to the design pile tip elevation and required ultimate pile capacity without damage to the pile. Provide pile-driving equipment that produces the following results from the wave equation analysis:

- 35 to 120 blows per one foot (0.3 meter) at ultimate capacity; and
- Maximum compressive driving stress less than 90 percent of the minimum pile material yield strength.

The Department will base hammer evaluations on a wave equation analysis. Submit the pile driving equipment information on Form CSB559_03_2.

The Project Manager will notify the Contractor of results of the pile driving equipment evaluation within 14 calendar days after receipt of the Pile and Driving Equipment Data form. If the Department's wave equation analysis indicates that pile damage may occur or that the proposed pile driving equipment cannot drive the pile to the specified ultimate capacity and design tip elevation, re-submit a plan that modifies the equipment or the method to ensure the ability to drive pile to the specified ultimate capacity and design tip elevation without pile damage. The Project Manager will notify the Contractor of results of the revised pile driving submission within seven calendar days after receipt of the re-submittal.

Do not vary from the evaluated driving system without prior written approval. The Department will consider proposed changes to the pile driving equipment or method only after submittal of revised information for a new wave equation analysis. The Project Manager will notify the Contractor of evaluation results of the pile driving system

changes within seven calendar days after receipt of the submittal. Delays and additional costs associated with developing, submitting and obtaining evaluation results for pile driving proposals and resulting changes in the pile driving equipment and work methods are at Contractor's expense.

559.03.3 PILE CAPACITY Page 271-273 1-31-08

Delete the first two sentences of 559.03.3(A) (that begins with "Drive the pile to ….") and replace with the following:

A. Driven Pile Capacity. Drive the pile to the design tip elevation shown on the plans, or deeper, if necessary and to the ultimate pile capacity during driving shown on the plans. The Project Manager will use one of the following methods specified to determine the ultimate driven pile capacity and the service pile driving criteria.

Replace the third paragraph in 559.03.3(B)(2) Dynamic Load Tests (that begins with "With dynamic testing …") and replace with the following:

With dynamic testing equipment attached, drive the pile in one continuous operation to the design tip elevation, or deeper if directed by the Project Manager. The Project Manager may lower the required tip elevation based on the ultimate pile capacity measurements at the time of driving or re-driving. Reduce the driving energy to the pile to maintain pile stresses below the values specified in Subsection 559.03.3(A)(2), using additional cushions or reduction of the hammer's output energy. If eccentric driving is indicated, immediately re-align the driving system. Provide a printed summary of the dynamic load test results and recommendations for service pile driving criteria (blow count and stroke) and pile tip elevation. The Project Manager will determine the service pile driving criteria and minimum pile tip elevations based on the dynamic load test results and specialty consultant's recommendations.

Replace the fourth paragraph in 559.03.3(B)(2) Dynamic Load Tests (that begins with "If the Project Manager …") and replace with the following:

Perform a re-drive of the test pile when required by the Project Manager. After initial driving, wait the minimum time specified, then re-drive each dynamic load test pile with the instruments attached. Apply at least 20 resistance blows to warm the hammer before re-driving. Do not warm the hammer using the dynamic load test pile. Re-drive the dynamic load test pile for a maximum penetration of 6 inches(150mm) or a maximum of 50 blows, whichever occurs first.

559.03.3 (B) (2) DYNAMIC LOAD TESTS (PILE CAPACITY) Page 273 5-12-11

Rescind and replace the second sentence of the first paragraph (That begins with "Use a pile…") to read:

Use a pile specialty consultant with at least three years' experience in dynamic load testing and analysis to perform the dynamic load test, Case Pile Wave Analysis Program (CAPWAP) and the wave equation analysis.

559.03.5 SERVICE PILE Page 274 2-19-09

Rescind 559.03.5 and replace with the following:

559.03.5 Service Pile

Do not initiate driving of the service piles until all test piles and analysis are complete unless authorized by the Project Manager. Drive the pile to the design tip elevation shown on the plans, or deeper if necessary to achieve the ultimate pile capacity during driving. If specified, establish pile tip elevation and ultimate pile capacity by compression load testing or dynamic load testing.

Furnish the service pile lengths specified in the contract. Adjust pile lengths for the difference between cutoff length and the pile position in the driving equipment.

The Project Manager will observe the pile driving and calculate the predicted pile capacity as it is being driven.

When a re-drive of the service pile is required, re-drive the pile not less than 24 hours or more than 72 hours after initial driving and do not drive the pile below cut off elevation. If the Project Manager determines pile stresses during driving are damaging the pile, the Department may require other installation methods or equipment to obtain pile penetration.

Correct or replace improperly driven, damaged or defective pile at Contractor's expense.

Temporary welded plates for aligning field splices or hoisting may be used with the Project Manager's approval. Remove temporary plates and grind welds smooth.

559.03.7 STEEL PIPE PILE Page 274 2-19-09

Rescind Supplemental Specification 559.03.7 (Effective 1-31-08) and replace with the following:

Securely cover driven pipe piling to prevent open-hole hazards.

Remove water in steel pipe piles before placing concrete or place the concrete using a tremie when water is present in the pile.

Provide lighting to illuminate the full pile length when requested to aid inspection of the pile before placing concrete. Fill steel pipe piles to an elevation no less than 2 feet (600 mm) below the cut off elevation with Class “DD” Portland cement concrete a minimum of 12 hours prior to pouring the cap.

Do not place concrete in pipe piles until all piles for the bent have been driven.

559.03.8 PAINTING STEEL PILE OR STEEL PIPE PILE Page 275 12-27-07

Delete the reference to Subsection 710.02(B)(4) under part (A) Paint, and replace with 710.02(B)(3).

559.04.1 LOAD TESTS (PILING) Page 275 2-19-09

Rescind Subsection 559.04.1 and replace with the following:

Static and dynamic load tests, and test pile re-drives, completed and accepted are measured by the unit. Include all materials, tools, the first 24 hours of standby time for items dedicated solely to this work, and equipment required to perform each test or test pile re-drive in the unit bid price for the item.

Furnishing, driving, splices, re-driving of service piles and pile end protection are measured for payment as outlined in other Subsections. Do not include these costs in the static and dynamic load tests.

559.04.2 FURNISH PILE Page 275 2-19-09

Rescind Subsection 559.04.2 and replace with the following:

Furnish pile is measured by the foot (meter) based on the plan quantity.

559.05 BASIS OF PAYMENT (PILING) Page 276 2-19-09

Rescind Supplemental Specification 559.05 (Effective 8-1-07) and replace with the following:

The Department will not pay for:

- Furnishing or driving falsework pile;
- Pile driven out of place and not accepted;
- Defective pile, or pile damaged in handling or driving;
- Forming holes;
- Lengths of pile cut off according to Subsection 559.02; or
- Welding temporary plates, removing the plates and grinding the welds smooth.

Include payment for the costs associated with painting steel pile and steel pipe piles and filler concrete in the contract unit price per foot (meter) of drive pile.

Pile furnished, based on the plan quantities, but not incorporated in the finished structure, is paid for at the contract unit price per foot (meter) of furnish pile and becomes the property of the Contractor. Pile furnished in addition to plan quantity that is incorporated in the finished structure, is paid for by lump sum agreed price or under Subsection 109.04.2..

Payment for the completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Static Load Test	Each
Dynamic Load Test	Each
Re-drive Test Pile	Each
Furnish Pile	Foot (meter)
Drive Pile	Foot (meter)
Pile Pre-bore	Foot (meter)
Pile Drill and Socket	Foot (meter)
Pile Splice	Force Account
Pile Driving Point	Each

Pay Item	Pay Unit
Pile Conical Driving Point	Each
Pile Cutting Shoe	Each
Re-drive Test Pile	Each
Re-drive of Service Pile	Force Account

Partial payments for drive pile will be made based on the total quantity as follows:
1. 95 percent when the piles are driven to final penetration.
2. 100 percent when the piles are cut off and painted as specified.

603.03.1 GENERAL (PIPES, STORM DRAINS, SANITARY SEWER, STOCKPASSES) Page 281 4-8-10

Rescind the last sentence of the fifth paragraph (that begins with “Include terminal sections...”) and replace with the following:

Include terminal sections and connection hardware, where required.

603.03.4 BACKFILLING (CULVERTS AND PIPES) Page 284 3-1-07

Delete part B Imperfect Trench Method.

Renumber part C Rock Embankment as part B.

603.04.3 BEDDING MATERIAL Page 285 12-17-09

Rescind Subsection 603.04.3 and replace with the following:

603.04.3 Bedding Material
Bedding material is measured by the cubic yard (cubic meter) in place for pipes greater than 48 inch (1.2 meter) diameter, and for all sizes of storm drain trunklines. Include the cost of bedding material for pipes 48 inch (1.2 meter) diameter or less in the cost of the pipe.

603.05 BASIS OF PAYMENT Page 285 3-12-09

Add the following paragraph after the last paragraph (that begins with “Payment for All…”)

No additional payment will be made for excavatable flowable fill used as bedding material.

606.02 MATERIALS (GUARDRAIL) Page 289 6-24-10

Add the following item to the list of materials under the first paragraph (that begins with “Furnish metal beam…)

Steel Guardrail Post……705.01.5

606.03.2 INSTALLING POSTS Page 290 6-24-10

Rescind the second paragraph (that begins with “Always drive steel…”) and replace with the following paragraph:

Always drive steel posts. Wood posts may be placed by excavating and backfilling or by driving.

Delete the last paragraph (that begins with “If furnishing steel…”), and delete lines 1., 2., and 3.

607.02.1 SNOW FENCE (NEW) Page 295 12-27-07

Add the following new Subsection:

Furnish all timbers, lumber and hardware as specified.
A. All lumber used must meet the Western Wood Products Association requirements, or equivalent grading rules for #2 grading and 3 common or better, all of which must meet ASTM D 245.
B. All treated material must meet the requirements of Subsection 706.04 or the special provisions.

607.04.3 GATES Page 299 2-10-11

Rescind Subsection 607.04.3 and replace with the following

607.04.3 Gates
Gates are measured by the foot (meter) from center to center of adjacent fence posts.

608 CONCRETE SIDEWALKS Page 301 6-24-10

Rescind and replace Section 608 with the following:

SECTION 608
CONCRETE SIDEWALKS

608.01 DESCRIPTION

This work is the construction of concrete sidewalks and the installation of Detectable Warning Devices at the locations shown in the plans.

608.02 MATERIALS

Furnish materials meeting the following Section and Subsection requirements:
Classes "A" and "D" Portland Cement Concrete.....551
Reinforcing Steel 711.01
Joint Materials 707.01

Meet all of the Department's requirements on the qualified products list (QPL) for Detectable Warning Devices – Type 1 and for Detectable Warning Devices – Type 2 . The QPL requirements and list can be found on the Department's website.

Use Detectable Warning Devices that are a brick red color.

608.03 CONSTRUCTION REQUIREMENTS

Construct concrete sidewalks as specified in the contract and as follows.

608.03.1 Subgrade and Forms

Excavate, shape, and compact the foundation to the specified width and grade.
Place and compact aggregate base to the specified thickness.
Use forms and form meeting Section 552 and Subsection 609.03 requirements.

608.03.2 Concrete

Furnish and place concrete meeting Section 551 requirements.
Place reinforcing steel as specified.
Dampen the foundation and forms immediately before placing concrete.
Do not place concrete on a frozen foundation course or subgrade.
Construct sidewalks meeting Subsections 501.03.18 and 501.03.19 requirements.

608.03.3 Detectable Warning Devices

Install detectable warning devices so they extend the full width of the ramp and the edge of the dome panel is located no more than 6 inches (150 mm) from the back of curb. If the detectable warning device used is embedded in concrete, install so the top of the panel is flush with the adjacent concrete and the domes will protrude above the adjacent surface. If Detectable Warning Devices require cutting, locate non-factory edges on the exterior side of Detectable Warning Device installation.

608.04 METHOD OF MEASUREMENT

Concrete sidewalk is measured by the square yard (square meter), including wheelchair ramps.

Detectable Warning Devices are measured by the square yard (square meter) to the nearest 0.1 square yard (0.1 square meter).

A. Contracts with Sidewalk Work Not in Conjunction with Roadway Reconstruction. Reinforcing steel, expansion joint material, bond breaker, excavation or embankment, crushed gravel base, and disposal of material associated with the work are not measured for payment.
B. All Other Contracts. Reinforcing steel, expansion joint material, bond breaker, disposal of material, and crushed gravel base are not measured for payment. Excavation or embankment associated with the work is measured by the cubic yard (cubic meter).

608.05 BASIS OF PAYMENT

Payment for the completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Sidewalk-Concrete	Square Yard (square meter)
Detectable Warning Devices – Type 1	Square Yard (square meter)
Detectable Warning Devices – Type 2	Square Yard (square meter)

The cost of the concrete used under Detectable Warning Devices – Type 1 is included in the contract unit price for Detectable Warning Devices – Type 1.

A. Contracts with Sidewalk Work Not in Conjunction with Roadway Reconstruction. The cost of reinforcing steel, expansion joint material, bond breaker, excavation or embankment, crushed gravel base, and disposal of material associated with the work are included in the contract unit price of sidewalk.
B. All Other Contracts. The cost of reinforcing steel, expansion joint material, bond breaker, crushed gravel base, and disposal of material associated with the work are included in the contract unit price of sidewalk. Excavation or embankment associated with the work is paid for under the specified type of earthwork.

Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

609.04 METHOD OF MEASUREMENT (CURBS AND GUTTERS) Page 304 10-1-06

Rescind Subsection 609.04 and replace with the following:

Curb, integral curb and gutter, and median concrete curb are measured by the foot (meter) to the nearest 0.1-foot (0.1m) along the face of the curb at the flow line.

Paint and painting is measured by the gallon (Liter) under Subsection 620.04.

A. Contracts with Curb, Integral Curb and Gutter, Median Curb, and Precast Concrete Curb Work Not in Conjunction with Roadway Reconstruction. Reinforcing Steel, expansion joint material, bond breaker, excavation or embankment, crushed gravel base, emulsified asphalt and disposal of material associated with the work are not measured for payment.

B. All Other Contracts. Reinforcing Steel, expansion joint material, bond breaker, disposal of material, crushed gravel base and emulsified asphalt are not measured for payment. Excavation or embankment associated with the work is measured by the cubic yard (cubic meter).

609.05 BASIS OF PAYMENT (CURBS AND GUTTERS) Page 304 10-1-06

Rescind Subsection 609.05 and replace with the following:

Payment for completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Curb	Foot (meter)
Integral Curb and Gutter	Foot (meter)
Median Concrete Curb	Foot (meter)
Paint	Gallon (liter)

A. Contracts with Curb, Integral Curb and Gutter, Median Curb, and Precast Concrete Curb Work Not in Conjunction with Roadway Reconstruction. The cost of reinforcing steel, expansion joint material, bond breaker, curing compound, excavation or embankment, crushed gravel base, emulsified asphalt and disposal of material associated with the work are included in the contract unit price of curb and gutter.

B. All Other Contracts. The cost of reinforcing steel, expansion joint material, bond breaker, curing compound, crushed gravel base, emulsified asphalt, and disposal of material associated with the work are included in the contract unit price of curb and gutter. Excavation or embankment associated with the work is paid for under the specified type of earthwork.

Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

610.01 DESCRIPTION (ROADSIDE REVEGETATION) Page 305 3-12-09

Rescind the first paragraph (that begins with “This work is…”) and replace with the following paragraph:

This work is re-establishing vegetative cover on specified areas with salvaged topsoil under Subsection 203.03.6 or furnished topsoil, seeding, planting, fertilizing, mulching, composting, soil retention blankets, and sodding.

610.03.1 TOPSOILING Page 305 3-12-09

Rescind the title of 610.03.1and replace with the following title:

610.03.1 Furnished Topsoil

Rescind the first sentence of the first paragraph (which begins with “Furnish topsoil and…) and replace with the following sentence:

When Topsoil is a bid item, furnish topsoil and notify the Project Manager of the proposed topsoil source(s) as soon as possible after the contract award.

610.03.2 (A) GENERAL (SEEDING, FERTILIZING, AND MULCHING) Page 305 7-31-08

Add the following paragraph after the last paragraph (that begins with “Seed all disturbed …”)

After all condition seedbed surface, seeding, and fertilizing work is complete, remove and dispose of any oversize material that protrudes 4-inchs (100 mm) or more above the conditioned seedbed surface

610.04.1 TOPSOIL Page 308 3-12-09

Rescind 610.04.1 and replace with the following:

Topsoil is measured by the cubic yard (cubic meter) of loose material level with the haul vehicle box at the point of use on the project. Strike or level loads when directed. All costs for obtaining and furnishing topsoil are incidental and are not measured separately for payment. Include these costs in the unit bid price for Topsoil.

610.04.4 CONDITION SEEDBED SURFACE Page 308 7-3-08

Add the following after the first paragraph:

Removal of oversized material from the conditioned seedbed surface is not measured separately for payment.

610.05 BASIS OF PAYMENT (ROADSIDE REVEGETATION) Page 309 3-12-09

Add the following after the "Pay Item" and "Pay Unit" line items:

Include the cost of removing oversize material from the conditioned seedbed surface in the cost of Topsoil-Salvaging and Placing, or Topsoil (furnished), whichever is applicable.

611.02.2 STEEL (CATTLE GUARDS) Page 311 10-7-10

Rescind the second paragraph (that begins with "Furnish low-alloy…") and replace with the following:

Furnish low-alloy weldable steel meeting AASHTO M 270 Grade 36 (250 MPa) or ASTM A 572 (A 572M), Grade 42 (290 MPa) requirements for crossbars.

611.02.3 PAINT (CATTLE GUARDS) Page 311 12-27-07

Delete the Subsection requirements and replace with the following:
Shop (Prime Coat) ……710.02(B)(6)
Aluminum Paint (Finish Coat) …… 710.02(B)(1)

612.01 DESCRIPTION (PAINTS AND PAINTING) Page 313 2-19-09

Rescind the first paragraph (that begins with "This work is …") and replace with the following:

This work is the surface preparation, furnishing and applying the paint or powder coating, and protecting the paint and powder coatings, pedestrians, vehicular or other traffic upon or under the surface being painted or coated.

612.02 MATERIALS (PAINTS AND PAINTING) Page 313 2-19-09

Add the following paragraph at the end of the first paragraph (that begins with "Furnish Materials meeting…")

Coat powder coated items with a TGIC Polyester powder

612.03.6 APPLICATION OF POWDER COAT Page 317 2-19-09

Add the following Subsection:

612.03.6 Application of Powder Coat

A. Surface Preparation. Prepare surfaces to be powder coated following the powder manufacturer's recommendations.
B. Application of Coating Material. Apply the coating as specified by the powder manufacturer, following all recommendations for metal preparation, coating procedures, and cure of the coating.
C. Handling of Coated Material. Handle coated materials to prevent damage or contamination and to limit required touchup or repair.
D. Sampling and Testing. The Department may accept the coating on the basis of a Certification of Compliance or through inspection of the application and the finished coatings at the applicator's plant. The Department may sample and test any or all materials at any time.

E. Damage and Repair. The Project Manager will determine if damaged items may be repaired or if the item will be rejected. Follow the manufacturer's procedures for maintenance and touchup repair due to handling and installation. Ensure at least one pound, or an equivalent prepackaged unit, of patching material compatible with the coating is on site for repairs to the coating damaged by handling. The patching material may be a liquid, which hardens to a solid on curing.

612.04 METHOD OF MEASUREMENT Page 317 2-19-09

Rescind the first paragraph (that begins with "Paints and painting …") and replace with the following:

Paints, painting, and powder coating are incidental to the items being painted or coated and are not measured separately.

612.05 BASIS OF PAYMENT Page 318 2-19-09

Rescind the first paragraph (that begins with "Paints and painting …") and replace with the following:

Paints, painting, and coating are not paid for separately but are included in the cost of the item painted and includes all materials and resources necessary to complete the work.

614.02 MATERIALS (RETAINING WALLS) Page 323 12-27-07

Delete the Subsection requirement for Metal Bin-Type Retaining Walls and replace with the following:
Metal Bin-Type Retaining Walls …… 711.17

617.03.1 GENERAL (CONSTRUCTION REQUIREMENTS) Page 331 9-9-10

Rescind the seventh paragraph (that begins with "Pay all fees…") and replace with the following paragraph:

Pay all fees and energy costs used for Contractor operations. The Department will pay the energy costs to operate signals and lighting used by the public.

617.04.2 TRAFFIC SIGNALS AND LIGHTING Page 336 12-27-07

Add the following to the list of bullet items under number 4:
- Overheight Detector

617.05 BASIS OF PAYMENT (TRAFFIC SIGNALS AND LIGHTING) Page 336 12-27-07

Add the following under the list of Pay Items and Pay Units:
Overheight Detector Each

618.03.2 TRAFFIC CONTROL PLAN Page 339 2-11-10

Add the following paragraph after the third paragraph (that begins with, "The traffic control…") :

Include in the plan proposed measures and devices to keep articulated trucks, scrapers, and other off-highway vehicles separated from traffic. Separate these vehicles from traffic by means of traffic control devices and/or separate haul roads. The use of pilot cars without devices separating them from the haul vehicles is not considered a means of separation.

618.03.5 TRAFFIC CONTROL GENERAL REQUIREMENTS Page 340 4-8-10

Delete the last sentence in the second paragraph (that begins with “Properly maintain, clean…”)

Add the following paragraph after the second paragraph (that begins with “Properly maintain, clean…”)

Immediately remove or cover the sign face of non-applicable signs. Use coverings that are opaque, non-reflective, and securely fastened to eliminate visibility of the sign face. Cover signs with shapes having a specific meaning, such as STOP and YIELD, from both sides in a manner that masks the shape. Use materials of sufficient durability to resist deterioration due to weathering and atmospheric conditions. Do not use tape, paper, garbage bags, or cardboard for the covering. Do not rotate signs.

618.03.6 ACCESS BREAKS Page 340 4-8-10

Add the following sentence at the end of the first paragraph (that begins with “Submit a written…”):

Interstate access breaks used for non-interstate contracts are prohibited.

618.03.6 ACCESS BREAKS Page 340 7-3-08

Add the following sentence after the last sentence of the third paragraph (which begins with “Do not begin work on the access break…”)

Excluding traffic control, assume all costs associated with construction, maintenance, removal of the access break, and restoration of the area once the access break is removed.

Rescind the fourth paragraph (which begins with “Assume all costs…”)

618.03.7(A) CROSSING, ENTERING AND USING ROADWAYS Page 341 2-11-10

Rescind the fourth paragraph (that begins with, “Operate hauling units with…”) and replace with the following:

Provide the means and traffic control devices to allow safe crossings whenever articulated trucks, scrapers, and other off-highway vehicles are crossing the roadway being used by traffic as included in the traffic control plan and approved by the Project Manager in advance of operations. Operate registered and licensed hauling units, such as dump trucks, belly dumps, side dumps, etc. with the flow of traffic. Do not operate any hauling units on roadway shoulders.

618.03.7(B) CROSSING, ENTERING AND USING ROADWAYS Page 341 9-9-10

Rescind 618.03.7 (B) and replace with the following:

B. Controlled Access and Multiple-lane Roadways. Use frontage roads and interchanges for equipment access to controlled access highways whenever possible.

Do not stop the general traffic on one-way roadways for the convenience of haul units without Department approval. Use interchanges or a series of appropriate lane closures at authorized vehicle median crossings or temporary median crossings for haul-unit operations on one-way roadways.

Haul unit turning movements are restricted to right-turn movements only when there is access to the project by frontage roads or where left-turn movements by hauling units would pose a hazard to the traveling public.

The use of authorized vehicle median crossings or temporary median crossings will not be allowed unless stated in the contract. If the construction of temporary median crossings is allowed as part of the contract, their use will be subject to all requirements of Section 618.

Submit an updated Traffic Control Plan detailing the use of authorized vehicle median crossings or the construction of temporary median crossings, including the following:

1. The distance between any two median crossings, including interchanges, authorized vehicle median crossings, and temporary median crossings must be at least 2 miles (3.2 km) unless a shorter distance is approved by the Department.
2. Median crossings must be at least 1,000 feet (305 m) from structures and have a minimum 1,500 feet (458 m) of sight distance at 3.5 feet (1.1 m) above the pavement.
3. Sign median crossings as specified in the contract.

4. When not in use, protect crossings through median barriers by one of the following methods:
   a. Place an approved impact attenuator at each end of the barrier opening.
   b. Close the inside lanes to traffic with a controlled lane closure.
   c. Close the opening by replacing and pinning the median barrier.

618.03.7(C) TWO-LANE ROADWAYS Page 342 12-2-10

Rescind Subsection 618.03.7(C) and replace with the following:

C. Two-lane Roadways. Always provide at least one functional lane for traffic. Meet Table 618-1 requirements.

TABLE 618-1

TRAFFIC CONTROL REQUIREMENTS FOR HAULING
UNITS ENTERING OR CROSSING 2-LANE ROADWAYS

ADT/LOAD FREQUENCY	TRAFFIC CONTROL REQUIREMENT
Less than 2000 ADT	Stop hauling units for traffic
2000 to 5000 ADT/ Less than 50 loads per shift	Stop hauling units for traffic
2000 to 5000 ADT/ More than 50 loads per shift	Provide flaggers to control traffic
More than 5000 ADT	Provide flaggers to control traffic

Limit the number of locations at which flagging is provided at roadway crossings, entrances or exits to:
1. One location per material source or plant site entrance or exit; or
2. Roadway crossings approved by the Project Manager in the Traffic Control Plan.

The Project Manager may adjust the ADT or load frequency at which flagging is required in Table 618-1. The Project Manager may add or reduce flagging locations to ensure the safety and mobility of the traveling public and workers within the construction limits.

Where flaggers are not required by Table 618-1, the Contractor may use flaggers and traffic control, with Project Manager approval, at the Contractor's expense.

618.03.11 TRAFFIC CONTROL FOR SEAL COAT OPERATIONS Page 344 4-8-10

Rescind the first paragraph (that begins with "Place "LOOSE GRAVEL"…") in Part A. and replace with the following:

A. Two-lane Two-way and Multiple-lane Two-way Roadways. Place "LOOSE GRAVEL" (W8-7), "DO NOT PASS" (R4-1), and "SPEED LIMIT 35" (R2-1) signs, at the beginning of each work zone. Place the same sign combination for each direction of travel at 2-mile (3.2 km) intervals within the work zone. Remove "LOOSE GRAVEL" (W8-7) signs once loose cover material is swept. Leave remaining signs in place until pavement markings within the zone are completed.

Rescind and replace the first and second sentence of the second paragraph (that begins with "Control traffic with…") in Part A. with the following:

Control traffic with pilot cars until sweeping is completed for a maximum of 72 hours. The 72-hour period associated with pilot car use for each section begins once the seal and cover has been placed and rolling is complete.

Rescind the fourth sentence of the third paragraph (that begins with "Remove all loose…") in Part A. and replace with the following:

Remove all loose cover material before terminating pilot car use.

Rescind the second paragraph (that begins with "Place "LOOSE GRAVEL"…") in Part B. and replace with the following:

Place "LOOSE GRAVEL" (W8-7) and "SPEED LIMIT 45" (R2-1) signs at the beginning of each work zone. Sign both sides of the roadway. Place the same sign combination at 2-mile (3.2 km) intervals within the work zone. Remove "LOOSE GRAVEL" (W8-7) signs once loose cover material is swept.

618.03.13 TRAFFIC CONTROL DEVICE LOCATION AND INSTALLATION Page 345 4-8-10

Rescind the sixth paragraph (that begins with “Assure the G20-1”…) and replace with the following:

Assure the G20-1 ("ROAD WORK NEXT (X) MILES) and G20-2 (END ROAD WORK) signs do not conflict with other construction signing. Remove these signs when directed.

618.03.14 FLAGGING OPERATIONS Page 346 4-8-10

Add the following sentence at the end of the first paragraph (that begins with “Provide flaggers that…”)

Flaggers are required to carry proof of flagger certification and present to the Project Manager when requested.

618.04 METHOD OF MEASUREMENT (TRAFFIC CONTROL DEVICES) Page 347 1-14-10

Delete the word “estimated” from the first sentence of the first paragraph.

Add the following paragraph after the first paragraph:

Signs and devices must meet standards outlined in the current ATSSA “Quality Guidelines for Temporary Traffic Control Devices” to be measured for payment.

618.04.1 TRAFFIC CONTROL - UNITS Page 347 1-14-10

Rescind Subsection 618.04.1 and replace with the following:

Traffic control devices are measured by the units of traffic control devices used and accepted. A unit of traffic control device is the base value used for establishing the relative value of each type of traffic control device. The relative value of each traffic control device in units is shown in the "Traffic Control Rate Schedule".

618.04.2 TRAFFIC CONTROL – LUMP SUM Page 347 1-14-10

Add the following subsection:

Traffic control is measured by the Lump Sum. Provide a written request for compensation resulting from a change in scope of work, differing site conditions or additional work. Quantities approved by any requested change will be measured by the units of traffic control devices used and accepted.

618.04.5 WATER FOR DUST CONTROL Page 347 9-9-10

Rescind Subsection 618.04.5.

618.04.6 ITEMS NOT ELIGIBLE FOR SEPARATE PAYMENT Page 347

Rescind the sixth bullet under paragraph one and replace with the following: 6-1-06

- Illumination of work areas.

Add the following to the bullet list: 10-1-06

- Traffic Control at commercial pits that are outside the project limits.

618.05 BASIS OF PAYMENT (TRAFFIC CONTROL) Page 348 1-14-10

Add the following:

Payment for the completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Traffic Control	Unit
Traffic Control	Lump Sum
Temporary Pavement Markings	Mile (kilometer)

Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

618.05.1 TRAFFIC CONTROL - UNITS Page 349 1-14-10

Delete the first sentence of the first paragraph (that begins with “Payment for the…”) and delete the “Pay Item” and “Pay Unit” tables.

Delete the third paragraph (that begins with “Traffic control devices are bid…”).

Delete the last paragraph (that begins with “Payment at the…”).

618.05.2 TRAFFIC CONTROL – LUMP SUM Page 349 6-24-10

Add the following subsection:

618.05.2 Traffic Control - Lump Sum

Payment for all costs associated with performing traffic control is included in the lump sum bid for Traffic Control. Payment for quantities approved by any requested change will be in accordance with the Traffic Control Rate Schedule and will be paid under Traffic Control - Fixed.

Partial payments for Traffic Control will be monthly based on the lump sum contract price at the rates listed in Table 618-7.

TABLE 618-7

LUMP SUM PROGRESS PAYMENTS

PROGRESS ESTIMATE PAYMENT	PERCENT OF LUMP SUM ITEM
First Partial Payment After Start of Contract Work	35
Estimate Paying 25% of Original Contract Amount	25
Estimate Paying 50% of Original Contract Amount	20
Estimate Paying 75% of Original Contract Amount	10
Final Partial Payment After Completion of Work	Remainder of Traffic Control Contract Price

620.03.2 LAYOUT OF PAVEMENT MARKINGS Page 357 5-1-08

Rescind Subsection 620.03.2 and replace with the following:

The Project Manager will layout the final pavement marking configurations and locations. Notify the Project Manager a minimum of 10 days before striping in the permanent location is to begin.

Preserve all marking configurations and locations after the initial layout by the Department.

Apply the centerline and shoulder lines within 0.30 feet (90 mm) of the true line. Ensure the stripe does not deviate by more than 0.15 foot (50 mm) in 500 feet (152 m).

Apply all other markings (words, symbols, stop bars, crosswalks, hash marks, and others) within 0.25 feet (75 mm) of the location marked by the Project Manager.

The Project Manager will determine the accuracy of the applied markings.

Remove and replace out of specification pavement markings as directed at Contractor expense.

620.03.6 EPOXY PAVEMENT MARKINGS Page 359 12-18-08

Rescind Subsection 620.03.6 part (A) and replace with:

A. Materials. Furnish Materials meeting Subsection 714.05 and 714.08 requirements.

Add the following sentence after the last sentence of Subsection 620.03.6 part (D) (1):

The Project Manager may extend the 45 days due to holidays or inclement weather that prevent the application of epoxy pavement markings.

Rescind the third paragraph of Subsection 620.03.6 part (D) (2) (that begins with "Apply a 20-mil ± 2 mil…") and replace with the following:

Apply a 20-mil ± 2 mil (0.508 mm ± 0.051 mm) thick wet film immediately followed by applying at least 25 lbs/gallon (3 kg/L) of Montana Type 2 glass beads to the epoxy. Apply the markings to within 1/4 inch (6 mm) of the specified width.

620.03.6 EPOXY PAVEMENT MARKINGS Page 359 6-1-07

Rescind the third sentence of the second paragraph in part B. (that begins with "Equip the pavement-marking….") and replace with the following:

The pavement-marking machine may be equipped with a flow meter and totalizer that measures paint quantities in gallons (liters), to the nearest 0.1 gallon (0.1L).

Delete the last sentence of the third paragraph in part B. (that begins with "In the event that…").

Add the following new paragraph after the third paragraph in part B.:

Park the equipment on a level surface approved by the Project Manager for each tank measurement.

Rescind the third paragraph in part C. (that begins with "Grind all surfaces…") and replace with the following:

Grind all surfaces with existing epoxy pavement markings within 3 calendar days before applying the pavement marking.

620.03.6 EPOXY PAVEMENT MARKING Page 360 3-27-08

Add the following new sentence/paragraph in 620.03.6, part (D)(2) after the second paragraph (that begins with "Do not place materials before furnishing…"

Apply the markings to within plus or minus 0.25 inch (6 mm) of the specified width.

620.03.7(H) APPLICATION (THERMOPLASTIC PAVEMENT MARKING) Page 362 6-1-06

Rescind the sixth paragraph and replace with the following:

Clean the grooves before placing the thermoplastic material. Meet the surface requirements in Subsection 620.03.7(D).

620.03.7(I) GLASS BEAD APPLICATION Page 363 6-1-06

Rescind the first paragraph (that begins with "Apply glass beads by drop-on …") and replace with the following:

Apply glass beads by drop-on methods immediately after the thermoplastic material application meeting Subsection 620.03.7(H) requirements.

620.03.8 PAVEMENT MARKING ON CONCRETE CURBS Page 363 1-14-10

Add the following paragraph after the third paragraph (that begins with "Apply yellow pavement…"):

Apply Type 1 or Type 2 reflective glass beads at a minimum rate of 8.0 pounds per gallon (0.96 kilograms per liter) immediately following the application of epoxy to concrete curbs.

620.04.1 TEMPORARY AND INTERIM PAVEMENT MARKING QUANTITIES Page 364 3-27-08

Add the following two paragraphs after the 3rd paragraph that begins with "Only those pavement markings…"

Should the actual quantity measured by the Project Manager using tank stabs or totalizer exceed the quantity calculated, the lesser quantity will be paid for.

The quantities will be calculated using the application rate (11 mils for temporary and 17 mils for interim) times the specified width (without applying the tolerance) times the length of line applied.

620.04.2 EPOXY PAVEMENT MARKINGS Page 364 3-27-08

Replace the 2nd paragraph that begins "Should the actual quantity …") and replace with the following:

Should the actual quantity measured by the Project Manager using tank stabs or totalizer exceed the quantity calculated using an application rate of 22 mils times the specified width (without applying the tolerance) times the length of line applied, the lesser quantity will be paid for.

620.04.4 PAINTED PAVEMENT MARKINGS AND CURBS Page 364 6-1-07

Rescind the last sentence of the second paragraph (that begins with "Computerized quantity print outs…") and replace with the following:

Computerized quantity print outs will be compared against tank stabs and the quantity calculated based on the surface area and an application rate of 22 mils.

620.05 BASIS OF PAYMENT (PAVEMENT MARKINGS) Page 365 6-1-07

Add the following new paragraph after the fourth paragraph of Subsection 620.05.

The quantity that is paid for marking materials is the lesser of the following quantities:

- Flow meter and totalizer;
- Calibrated tank and measuring device (tank stabs); and
- Surface area times the application rate specified.

623 MAILBOXES Page 375 3-12-09

Rescind Section 623 MAILBOXES and replace with the following:

SECTION 623
MAILBOXES

623.01 DESCRIPTION

This work is the removal, temporary reset and maintenance, and furnishing and installation of new mailboxes and crash-worthy supports at the specified locations or as directed.

623.02 MATERIALS

Furnish new mailboxes, measuring at least 6 1/2 inches wide x 7 1/2 inches high x 18 1/2 inches long (165 mm x 190 mm x 470 mm), not exceeding 10 pounds (4.5 kg) in weight that meet the Postal Service requirements for the designated location (area with or without curb and gutter).

Furnish a crashworthy mailbox support as shown in the Detailed Drawings, a mailbox support identified in the current edition of the AASHTO *Guide for Erecting Mailboxes on Highways*, or other commercially manufactured NCHRP 350 compliant crashworthy mailbox support.

Furnish a NCHRP 350 compliant crashworthy support for temporary resets of mailboxes. Do not use traffic control devices as mailbox supports.

623.03 CONSTRUCTION REQUIREMENTS

Reset and maintain all mailboxes specified by the project manager that are removed during construction. Temporary supports and locations must be approved by the Project Manager. Install permanent mailboxes and supports at the locations shown in the plans.

623.04 METHOD OF MEASUREMENT

Mailbox and support are measured as a unit. Removal, temporary resets and maintenance are not measured for payment.

623.05 BASIS OF PAYMENT

Payment for the completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Mailbox	Each

Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

701.01.1 (B) DELETERIOUS SUBSTANCES Page 377 9-9-10

Rescind the second paragraph (that begins with “The material must…”) and replace with the following paragraph:

Ensure that the material does not contain other deleterious material.

701.01.2 (B) DELETERIOUS SUBSTANCES Page 379 9-9-10

In table 703-3, Rescind and replace the fourth row under “Substance” with the following:

Thin or elongated aggregate having a length greater than five times average thickness.

Rescind the second paragraph (that begins with “The material must…”) and replace with the following paragraph:

Ensure that the material does not contain other deleterious material.

701.02.1 GENERAL REQUIREMENTS-(AGGREGATE FOR SURFACING) Page 380 3-12-09

Rescind the first paragraph (that begins with “The following test methods …”) and replace with the following:

The following test methods are used to evaluate the surfacing aggregate quality:
Sieve Analysis For Fine And Coarse Aggregate.....MT-202
Wear Test.....MT-209
Liquid Limit, Plastic Limit, Plasticity Index.....MT-208
Fracture MT-217
Volume Swell of Bituminous Mixtures.....MT-305
Sulfate Soundness.....AASHTO T-104 or ASTM C-88
Micro-Deval MT-233

Rescind the second paragraph (which begins with “Sulfate soundness will be …) and replace with the following paragraph:

Passing wear test results are mandatory for Department approval of sources. Micro-Deval or Sulfate soundness tests may be used by the Department for source approval. If Micro-Deval is used and the test fails, the Department will conduct the sulfate soundness test. If the sulfate soundness test fails the Contractor may not use the source to produce coarse surfacing aggregate.

Add the following paragraph after the second paragraph (which begins with “Passing wear test …):

Meet the following Micro-Deval requirements:
- Coarse Aggregate, 18.0 percent loss maximum for acceptance.

Rescind the first sentence of the last paragraph (which begins with “The Department has …) and replace with the following sentence:

The Department has 30 calendar days from receipt of the test sample to furnish the test results.

701.02.8 CRUSHED COVER AGGREGATE (COVER MATERIAL) Page 385 7-31-08

Rescind the first sentence of requirement 1, which reads:

The material for Grades 1A through 4A must be non-plastic.

701.02.9 AGGREGATE FOR PORTLAND CEMENT TREATED BASE Page 385 3-12-09

Rescind subtitle “Job Mix Target Limits” and replace with “Percent passing” in TABLE 701-13.

701.03.1 GENERAL REQUIREMENTS (AGGREGATE FOR BIT. MIXTURES) Page 386 3-12-09

Rescind the first paragraph (that begins with "The following test methods …") and replace with the following:

The following test methods will be used to evaluate the quality of aggregate to be bituminized:
Sieve Analysis For Fine And Coarse Aggregate.....MT-202
Wear Test.....MT-209
Liquid Limit, Plastic Limit, Plasticity Index.....MT-208
Fracture MT-217
Volume Swell of Bituminous Mixtures.....MT-305
Plastic Fines in Graded Aggregates…… MT-213
Sulfate Soundness.....AASHTO T-104 or ASTM C-88
Micro-Deval MT-233

Rescind the second paragraph (which begins with "Sulfate soundness will be …) and replace with the following paragraph:

Passing wear and volume swell test results are mandatory for Department approval of bituminized material aggregate sources. Micro-Deval or Sulfate soundness tests may be used by the Department for source approval. If Micro-Deval is used and the test fails, the Department will conduct the sulfate soundness test. If the sulfate soundness test fails the Contractor may not use the source to produce coarse aggregate to be bituminized.

Add the following paragraph after the second paragraph (which begins with "Passing wear and …):

Meet the following Micro-Deval requirements:
- Coarse Aggregate, 18.0 percent loss maximum for acceptance.

Rescind the first sentence of the last paragraph (which begins with "The Department has …) and replace with the following sentence:

The Department has 30 calendar days from receipt of the test sample to furnish the test results.

701.04.1 BEDDING MATERIAL (TABLE 701-17) Page 388 3-1-07

Rescind Table 701-17 and replace with the following:

TABLE 701-17
TABLE OF GRADATIONS - BEDDING MATERIAL

PERCENTAGE BY WEIGHT PASSING SQUARE MESH SIEVES	
Sieve Size	Percent Passing
1 1/2 inch (37.5 mm)	100
No. 4 (4.75 mm)	24-60
No. 200 (0.075 mm)	12 maximum

Delete the note (that begins with "Use minus 1 ½-inch …")

701.11 GLASS CULLET Page 391 1-31-08

Replace part D (that begins with "Limit the glass …") and replace with the following:

Limit the glass cullet content to no more than 10 percent of the total blended product.

702.1 BITUMINOUS MATERIALS Page 393 7-3-08

Rescind the Emulsified Asphalt requirements and replace with the following:

Emulsified Asphalt .....AASHTO M 140*, Table 1 or
AASHTO M 208*, Table 1

*Cement mixing test does not apply when SS-1 or CSS-1 emulsion is used for spray or tack application.

702.02 TESTING AND ACCEPTANCE Page 394 7-3-08

Rescind the Second row of Table 702-2 Schedule of Tolerances, and replace with the following:

Penetration Liquid Asphalt (excluding CRS-2P) Distillation Residues	-10%	+10%	
CRS-2P Distillation Residues	-15%	+10%	

702.02 TESTING AND ACCEPTANCE (TABLE 702-2) Page 394 7-1-06

In Table 702-2, rescind "% Residue from Distillation" under the Test column and replace with "% Residue".

702.02 TESTING AND ACCEPTANCE (TABLE 702-8) Page 399 7-1-06

Add the following note under Table 702-8:

1. AASHTO T 59 Residue by evaporation will be used to obtain samples for all residue testing requirements. AASHTO T 59 is modified deleting note 8.

703.02.1 PLASTIC CONDUIT Page 401 12-18-08

Rescind Subsection 703.02.1 and replace with the following:

703.02.1 Plastic Conduit

Furnish rigid polyvinyl chloride meeting UL 651 or UL 651B, schedule 80, 150 °F (66 °C) wire rated, direct bury type, or directional boring. Install conduit meeting the applicable requirements of Section 616.

703.16 TREATED TIMBER POLES Page 417 9-1-07

Rescind Subsection 703.16 and replace with the following:

Furnish the pole length and place as specified in the contract.

Furnish ANSI Class 4 poles as specified in the contract. Full length pressure treat poles with a five percent solution of pentachlorophenol or Copper Naphthenate (CuN) meeting AWPA Standards and Commodity specification D and Use Category 4A. Seat, backfill, and compact around the poles. Compact backfill in 9-inch (230 mm) lifts. Plumb and rake the pole as directed.

Treat injuries, cuts, and holes in poles after treatment with three applications of copper naphthenate solution containing a minimum two percent copper metal or with Chromated Copper Arsenate (CCA) meeting AWPA M4 requirements.

703.17.3 WOOD POLES FOR OVERHEAD CONDUCTOR HIGHWAY LIGHTING Page 417 9-1-07

Delete Subsection 703.17.3 Wood Poles for Overhead Conductor Highway Lighting.

703.17.7 OVERHEIGHT DETECTOR Page 419 12-27-07

Delete the reference to Subsection 617.05.2 in the fifth paragraph and replace with 617.05

704.01.5 TREATED TIMBER POSTS Page 422 9-1-07

Rescind the first sentence of the first paragraph (starting with "Furnish treated timber posts…") and replace with the following:

Furnish treated timber posts of construction grade, S4S, full length pressure treated with a five percent by weight pentachlorophenol solution or Chromated Copper Arsenate (CCA), Type B or C, or Ammoniacal Copper Arsenate (ACA) or Copper Naphthenate (CuN) meeting AWPA standards and Subsection 706.04.

704.01.6 TREATED TIMBER POLES Page 423 9-1-07

Rescind Subsection 704.01.6 Treated Timber Poles and replace with the following:

Timber poles are specified by the top diameter. Meet the Table 704-2 top diameter limits:

TABLE 704-2
TIMBER POLE - TOP DIAMETER LIMITS

SPECIFIED TOP DIAMETER inch (mm)	DIAMETER LIMITS inch (mm)	
	Min.	Max.
3 (75)	3 (75)	4 (100)
4 (100)	4 (100)	5 (130)
5 (130)	5 (130)	6 (150)
6 (150)	6 (150)	7 (180)

Furnish poles that are straight so that a line from center of tip to center of butt passes through the pole body from tip to butt. The poles must be free of crooks and sweeps. Perform all machining before treatment. Full length pressure treat all Timber poles with a 5 percent by weight pentachlorophenol solution or Chromated Copper Arsenate (CCA), Type B or C, or Ammoniacal Copper Arsenate (ACA) or Copper Naphthenate (CuN) meeting AWPA standards.

Treat naturally round poles meeting AWPA standards and Commodity Specification B and Use Category 4A. Machined round post must have a minimum preservative penetration of 3/8 inch (9 mm) and retention requirements meeting AWPA standards listed above for naturally round posts. Machined round post with sapwood up to 1 inch (25 mm) thick 100 percent of the sapwood must be treated and for post with sapwood more than 1 inch (25 mm) thick a minimum of 85 percent of the sapwood must be treated.

Treat damaged, cut, or bored holes in treated posts meeting Subsection 704.01.5 requirements. Gain each pole on the sign face at least 2 inches (50 mm) in width as specified in the Detailed Drawings.

Use pressure treated, construction grade 2-inch x 4-inch (50 x 105 mm) in S4S for back bracing.

704.01.7 BARN POLES Page 423 9-1-07

Delete Subsection 704.01.7 Barn Poles.

704.01.10 RETRO-REFLECTIVE SHEETING Page 423 2-11-10

Rescind and replace Subsection 704.01.10 with the following:

704.01.10 Retro-reflective Sheeting

A. General. Furnish the type of retro-reflective sheeting and color specified in the contract. Use traffic control sheeting that meets the ASTM retro-reflective sheeting requirements on the traffic control devices specified in Table 704-3.

The following traffic control devices in the Traffic Control Rate schedule require ASTM designated Retro-Reflective sheeting as specified. Provide orange sheeting that is fluorescent. All other sign colors need not be fluorescent:

TABLE 704-3
ASTM RETRO_REFLECTIVE SHEETING REQUIREMENTS

Traffic Control Rate Schedule Group No.	Specification	Type
1-15, 18 (sign panel), 19, 25 (panel) and all other work zone sign faces (e.g. flag person paddles, pilot car signs, etc.)	ASTM 4956	XI, X, IX VIII, VII or VI
17, 23, 27, 28 and all cones and tubular markers	ASTM 4956	III or V

Reflective sheeting may only be overlaid on reflective sheeting of the same color. Remove any existing legend prior to overlaying.

B. Acceptance. Submit manufacturer's certification that the retro-reflective sheeting used meets the designated ASTM TYPE Retro-Reflective requirement specified.

The Department may take sheeting samples for analysis and testing. The Project Manager may visually compare the sheeting's diffuse day color in the field using standard color charts and test the signs retro-reflectivity using a retro-reflectometer.

Replace rejected material at Contractor expense.

705.01.2 WOOD POSTS AND BLOCKOUTS Page 427 4-8-10

Rescind the third sentence of the third paragraph (that begins with “Ensure the wood posts …”) and replace with the following sentence:

Ensure the wood posts and blockouts are seasoned to accept the specified treatment requirements of Subsection 705.03.1.

705.01.2 WOOD POSTS AND BLOCKOUTS Page 427 9-1-07

Rescind the second paragraph (starting with “Meet the Western Wood Products Association…”) and replace with the following:

Meet the Western Wood Products Association requirements or equivalent grading rules for #2 grading or better, all of which must meet ASTM D 245.

Delete the fourth sentence of the third paragraph (starting with “Furnish wood posts and blocks…”).

Delete the fifth sentence of the third paragraph (starting with “ The minimum penetration depth…”).

705.03.1 WOOD TREATMENT Page 428 9-1-07

Rescind Subsection 705.03.1 Wood Treatment and replace with the following:

Furnish wood posts and blocks pressure treated meeting Subsection 706.04, with a five percent by weight pentachlorophenol solution Chromated Copper Arsenate (CCA), Type B or C, or Ammoniacal Copper Arsenate (ACA) or Copper Naphthenate (CuN) meeting AWPA standards. Chamfer and perform other required framing and boring of bolt holes before post treating. Plug drill holes used for determining preservative penetration depth with tight fitting treated wood plugs.

Treat injuries, cuts, and holes in posts after treatment with three applications of copper naphthenate solution containing a minimum two percent copper metal or with Chromated Copper Arsenate (CCA) meeting AWPA M4 requirements.

706.04 TREATED TIMBER AND LUMBER Page 429 9-1-07

Rescind the paragraph in 706.04 (starting with “Furnish structural timber…”) and replace with the following:

Furnish structural timber and lumber treated with a wood preservative specified as follows.

706.04.1 TREATING Page 429 9-1-07

Rescind Subsection 706.04.1 Treating and replace with the following:

Furnish timber and lumber that is pressure treated retaining at least the minimum preservative treatment quantity per cubic foot (cubic meter) specified in AWPA Standards and Commodity Specification A with retention specifications from Commodity specification B Use Category 4B.

Use one of the following preservatives:

- Creosote oil, creosote coal tar solution, five percent by weight pentachlorophenol solution.
- Chromated Copper Arsenate (CCA), Type B or C.
- Ammoniacal Copper Arsenate (ACA).
- Copper Naphthenate (CuN).

Use preservative meeting AWPA standards.

Treated timber or lumber to receive paint must permit the paint to adhere to the treated surface without discoloration.

Meet AASHTO M 133 requirements for all preservatives and their sampling and testing methods.

Treat injuries, cuts, and holes in timber and lumber after treatment with three applications of copper naphthenate solution containing a minimum two percent copper metal or with Chromated Copper Arsenate (CCA) meeting AWPA M4 requirements.

706.04.2 INCISING Page 429 9-1-07

Rescind Subsection 706.04.2 Incising and replace with the following:

Mechanically incise timber and lumber of the listed species as specified in section 8.1 of AWPA Standard T1having a nominal thickness of 2 inches (actual 38 mm thickness) or greater before treating.

Incise timber and lumber 3 inches (63 mm actual thickness) thick or greater on all four sides. Incise timber and lumber less than 3 inches (63 mm actual thickness) thick on the wide faces only, unless otherwise specified. Ensure incision patterns for all other material are dense enough to achieve uniform depth of penetration as specified in section 8.1.12 of standard T1 in the AWPA Standards. Incise Intermountain Douglas Fir then treat to refusal with preservative and retention requirements meeting AWPA standards listed in 706.04.1. Refusal being specified as the pressure and temperature shall be maintained constant or be increased within a range with good practice for the material being treated until the quantity of preservative absorbed in each of any two consecutive half hours in not more than 2 percent of the amount already injected. 1 1/2-inch (38 mm actual dimension) center-matched material used for flumes, boxes, etc., does not need to be incised.

Follow the requirements for minimum incision depths in Table 706-1:

TABLE 706-1
MINIMUM INCISION DEPTHS

SIZE IN INCHES (mm)	MINIMUM DEPTH OF INCISION inch (mm)
1 1/2 x 12 (38 x 286)	3/8 (9)
3 x 12 (63 x 290)	7/16 (11)
4 x 12 (89 x 290)	1/2 (13)
6 x 8 (145 x 190)	1/2 (13)
8 x 10 (190 x 240)	9/16 (14)
10 x 12 (240 x 290)	5/8 (16)
12 x 12 (290 x 290)	3/4 (19)

Notes:

- Proportion intermediate sizes.

706.04.3 INSPECTION Page 430 9-1-07

Rescind Subsection 706.04.3 Inspection and replace with the following:

Wood products will be inspected by the method outlined in MT 404. Only wood products with worm holes and any staining due to fungus will be inspected in the white along with the moisture content of Intermountain Douglas Fir. For inspecting wood in the white a minimum of 72 hours advanced notice must be given and must be traceable from inspection in the white to inspection of the treated product. If stain is present in the wood use only material with blue stain. The correct moisture content for Intermountain Douglas Fir is 22 percent plus or minus 2 percent and the method to obtain this moisture content is outlined in the AWPA standards.

The acceptance of any material or finished members by the Inspector does not prevent their rejection if found defective. Replace rejected material and work at Contractor expense.

706.05(A) TIMBER PILES – TREATED TIMBER PILES Page 430 9-1-07

Rescind Subsection 706.05 (A) Treated Timber Piles and replace with the following:

A. Treated Timber Piles. Furnish treated timber piling of Douglas Fir, Southern Pine, or Western Larch meeting ASTM D 25 requirements, excluding Tables 1 and 2.

Season, condition, and treat piles meeting ASTM D 1760 and AWPA Standards and Commodity Specification E for preservative treatment by pressure process. Use creosote oil, creosote coal tar solution, or a 5 percent by weight pentachlorophenol solution or Copper Naphthenate (CuN) for the preservative.

Treat injuries, cuts, and holes in timber pile after treatment with three applications of copper naphthenate solution containing a minimum two percent copper metal meeting AWPA M4 requirements.

707.02.1 RUBBER GASKETS Page 431 6-1-06

Rescind the first paragraph and replace with the following:

Furnish ring gaskets meeting ASTM C1619-05 requirements.

707.02.2 FLEXIBLE PLASTIC GASKETS Page 431 6-1-06

Rescind the title of Subsection 707.02.2 and replace with "Flexible Bituminized Gaskets":

Rescind the first sentence of the first paragraph and replace with the following:

Furnish flexible bituminized joint compounds produced from refined hydrocarbon resins and plasticizing materials reinforced with inert mineral filler and not containing solvents.

709.03 STEEL STRUCTURAL PLATE PIPE AND PIPE ARCHES Page 438 10-7-10

Rescind the third paragraph (that begins with "Meet AASHTO…") and replace with the following:

Meet AASHTO M 167 requirements for allowable tolerance in span and rise for pipe arches.

710.02.3 PAINT COATING SYSTEMS FOR STRUCTURES Page 445 3-1-07

Rescind the first sentence of part C (that begins with "C. Finish Coat. Provide …") and replace with the following:

C. Finish Coat. Provide a urethane paint meeting Table 710-6 requirements.

710.03 PREQUALIFICATION AND CERTIFICATION (POWDER COATING) Page 446 2-19-09

Add the following subsection to Section 710:

710.03 PREQUALIFICATION AND CERTIFICATION.

Provide certified test results of the tests shown in Table 710-7. The test results must be from an independent professional testing laboratory. Submit certified test results and samples for approval. Only coatings approved are permitted to be used.

TABLE 710-7
CERTIFIED TEST RESULTS

Test Name	ASTM Designation	Specification Limits
Salt Spray Test	D1654	Rating Number Minimum 6 (from Table 2)
Impact Test	D2794	Minimum 80 in.-lbs
Chemical Resistance Test	D1308	Original Property Obtained
Cross Hatch Adhesion Test	D 3359	5A or 5B Minimum
Hardness Test	D3363	2H
Bend Test	D522	180 degree Bend ½ inch diameter mandrel with No Breaks Flaking or Cracks
Weather Resistance	G53	1,000 hours No Film Failure
Thickness	G12	3 mil Minimum
Abrasion Taber Abraser	D1044	1,000 gram 1,000 cycles 100 mg maximum weight loss

Submit two 4 inch by 4inch by 24 gage coupons along with the test results of the coated material used to the Project Manager. The coating must be representative of expected quality and color of coatings from a production line.

711.03 STRUCTURAL STEEL TUBING Page 447 9-23-10

Rescind and replace the first sentence of the first paragraph (that begins with "Furnish structural steel…") with the following sentence:

Furnish structural steel tubing meeting ASTM A 500, Grade B, requirements for cold-formed welded seamless carbon steel structural tubing in rounds and shapes.

711.12.3 DRAINAGE STRUCTURE CASTINGS Page 448 4-8-10

Rescind Subsection 711.12.3 and replace with the following:

Furnish structural drainage castings meeting the Detailed Drawing and AASHTO M 306 requirements.

712.01.1 GENERAL (CHAIN LINK FENCE) Page 451 10-9-08

Rescind section 712.01.1 and replace with the following:

Meet AASHTO M 181 requirements, as modified herein. Use one of the following fence fabrics, as specified in the contract:

- Type 1 Class C Zinc-coated Steel
- Type 2 Aluminum-coated Steel
- Type 3 Aluminum Alloy

Zinc-5 Percent Aluminum-Mischmetal alloy meeting the requirements of ASTM B 750 may be substituted for zinc coating (hot-dipped) at a Class 2, or 1.0 oz/ft^2 (305 g/m^2), coating thickness as specified by ASTM F 1345.

Use zinc-coated steel for all Type 1 and Type 2 fabric fence parts; including posts, rails, gate frames, expansion sleeves, wire ties, fabric ties, hog rings, tension wire, miscellaneous fittings, and hardware. Use aluminum alloy for these same Type 3 fabric fence parts. Use either zinc-coated steel or aluminum alloy for these Type 4 fabric fence parts.

712.01.6 TIE WIRE (FENCE) Page 451 10-9-08

Rescind the first paragraph (that begins with “Furnish 9-gauge galvanized…”) and replace with the following:

Furnish 9-gauge galvanized steel tie wire meeting AASHTO M 279 (ASTM A 116) requirements. Furnish 11-gauge; Class 1 galvanized steel hog ring fasteners meeting AASHTO M 279 (ASTM A 116) requirements.

712.01.7 TENSION WIRE (FENCE) Page 451 10-9-08

Rescind the first paragraph (that begins with “Furnish 7-gauge galvanized…) and replace with the following paragragh:

Furnish 7-gauge galvanized coiled spring steel tension wire. Meet AASHTO M 279 (ASTM A 116), Class 1 galvanizing requirements.

712.02.1 WOVEN WIRE (FENCE) Page 454 10-9-08

Rescind 712.02.1 and replace with the following:

Furnish woven wire meeting AASHTO M 279 (ASTM A 116) requirements and either of the Table 712-2 designations.

TABLE 712-2
WOVEN WIRE REQUIREMENTS

INTERSTATE FENCE			
Specification	Grade	Design Number	Metallic Coating
AASHTO M 279 (ASTM A 116)	No. 12 1/2 Grade 60	832-6-12 1/2	Type Z, Class 1 or Type ZA, Class 20
AASHTO M 279 (ASTM A 116)	No. 14 Grade125	832-6-14	Type Z, Class 3 or Type ZA, Class 40

FARM FENCE			
Specification	Grade	Design Number	Metallic Coating
AASHTO M 279 (ASTM A 116)	No. 12 1/2 Grade 60		Type Z, Class 1 or Type ZA, Class 20
AASHTO M 279 (ASTM A 116)	No. 14 Grade125		Type Z, Class 3 or Type ZA, Class 40

Provide a 6-inch (155 mm) stay spacing. Match the fence height and mesh dimensions of the fence being replaced if not specified.

712.02.2 BARBED WIRE (FENCE) Page 454 10-9-08

Rescind 712.02.2 and replace with the following:

Use 2-point 12 1/2 or 13 1/2-gauge barbed wire meeting AASHTO M 280 (ASTM A 121) requirements. Space barbs at a 4-inch nominal (105 mm) or a 5-inch nominal (130 mm) spacing. Provide the Project Manager Certification that the wire meets AASHTO M 280 (ASTM A 121) requirements.

712.02.7 METAL POSTS AND ASSEMBLIES Page 454 10-7-10

Rescind 712.02.7 and Table 712-3 and replace with the following:

712.02.7 Metal Posts and Assemblies
Provide metal fence posts and assemblies meeting AASHTO M 281 requirements, modified as follows:

- Tables 3 and 4, and Section 7 of AASHTO M 281 apply to finished posts and assemblies after fabrication, punching, drilling, and finish coating.

Galvanize or paint posts, braces, and anchor plates. Meet AASHTO M 111 galvanizing requirements. Furnish nuts, bolts, fittings, and other hardware meeting ASTM A 153 or B 695 (Class 50) galvanizing requirements. Paint following the paint manufacturer's recommendations.

Furnish fence posts and braces of the lengths in Table 712-3.

TABLE 712-3
POST LENGTHS

FENCE	POST TYPE	CORNER, END, GATE, PULL & PANEL POSTS	LINE POSTS	BRACES AND BRACE RAILS
Interstate	Metal	7 feet 8 inch (2.3 m)	6 feet 6 inch (2.0 m)	7 feet 8 inch (2.3 m)
Interstate	Wood	8 feet (2.4 m)	7 feet (2.1 m)	8 feet (2.4 m)
Farm	Metal	7 feet 8 inch (2.3 m)	6 feet 6 inch (2.0 m)	7 feet 8 inch (2.3 m)
Farm	Wood	8 feet (2.4 m)	7 feet (2.1 m)	8 feet (2.4 m)

Use 2 1/2 inch x 2 1/2 inch x 1/4 inch (64 mm x 64 mm x 6 mm) or heavier metal fence posts for Interstate and Farm fence corner, end, gate and pull posts. Use 2 inch x 2 inch x 1/4 inch (51 mm x 51 mm x 6 mm) or heavier metal pipe brace posts. .

Use Tee, Channel, U, or Y bar section line posts with corrugations, knobs, notches, holes, or studs placed to engage the fence line wires.

Attach a steel anchor plate to each line post so that the anchor top is 2 inches to 3 inches (50 mm to 75 mm) below ground line when the post is set to the specified depth.

712.02.8 WOOD FENCE POSTS AND BRACE RAILS Page 455 9-1-07

Rescind Subsection 712.02.8 Wood Fence Posts and Brace Rails and replace with the following:

A. General. Make fence posts and brace rails from well seasoned, sound, and straight-grained Western Larch, Lodgepole Pine, Ponderosa Pine, or Douglas Fir. Remove all bark from the posts.

Taper round posts to be driven from 6 inches to 12 inches (155 to 305 mm) up from the bottom to a maximum of 1 1/4-inch (30 mm) point. Taper the post tops to a round top with a minimum 3-inch (75 mm) diameter for line posts and 4-inch (105 mm) diameter for corner, brace, pull, end, and gate posts or minimum of 3/4 inch (19 mm) chamfer. These taper lengths are included in the specified post lengths. Perform all machining before treatment. Treat the natural round posts and rails meeting AWPA Standards and Commodity Specification B and Use Category 4A requirements. Treat the S4S post as specified in Subsection 706.04.

Machined round post must have a minimum preservative penetration of 3/8 inch (9 mm) and retention requirements meeting AWPA standards listed above for naturally round posts. Machined round post with sapwood up to 1 inch (25 mm) thick 100 percent of the sapwood must be treated and for post with sapwood more than 1 inch (25 mm) thick a minimum of 85 percent of the sapwood must be treated.

Ensure the posts and rails are straight so that a line running from the center of both ends is within the body of the post or rail.

Treat injuries, cuts, and holes in timber pile after treatment with three applications of copper naphthenate solution containing a minimum two percent copper metal meeting AWPA M4 requirements.

B. Posts for Farm Fence and Interstate Fence. Furnish line posts and brace rails from a minimum 4-inch (105 mm) diameter round, or a minimum 4-inch x 4-inch (105 mm x 105 mm) square sawn. Furnish corner, end, gate, and pull posts from a minimum 5-inch (130 mm) diameter round post or a 5 x 5-inch (130 mm x 130 mm) square sawn post.

713.12 SOIL RETENTION/EROSION CONTROL BLANKETS AND MATS Page 461 7-3-08

Add the following paragraph:

All mass per unit area requirements for blankets or mats will be measured under ASTM D 6475 unless otherwise specified.

713.12.1 (C) WOOD EXCELSIOR FIBER BLANKETS (TYPE EX 3) Page 461 7-3-08

Rescind the sentence of Number 1 (that begins with "Minimum weight of …") and replace with the following:

Minimum weight of 1.6 pounds per square yard (865 g per square meter)

714.02 TEMPORARY PAVEMENT MARKING TABS Page 465 5-1-08

Rescind Part (1)(a) (that begins with "Type I tabs …") and replace with the following:

a. Type I tabs: white reflectorized tape on both sides with white bodies;

Rescind Part (2) (that begins with "A minimum tape reflectance of …") and replace with the following:

2. Reflective flexible sheeting meeting ASTM D4956 Type V or better;

714.04 TEMPORARY AND INTERIM PAINT MARKINGS Page 467 12-18-08

Rescind Subsection 714.04 and replace with the following:

714.04 TEMPORARY AND INTERIM PAVEMENT MARKINGS

Furnish either liquid pavement markings or solid pavement marking tape for temporary and interim pavement markings. Submit a manufacturer's formulation sheet or data sheet for the product to be used.

A. Temporary and Interim Pavement Markings. Furnish marking materials that meet the following:

1. White. Color to match Federal color chip # 37875. Colorimeter readings may be taken on the white portion of a Leneta form 5c. Daylight reflectance is Y=79.80 minimum. Color Coordinates are x=0.3136, y=0.3244. A plus or minus 6 percent tolerance applies to the coordinates.
2. Yellow. Color to match Federal color chip # 595B-33538. Colorimeter readings may be taken on the white portion of a Leneta form 5c. Daylight reflectance is Y=48.32 minimum. Color coordinates are x=0.4851, y=0.4455. A plus or minus 6 percent tolerance applies to the coordinates.

B. Cold weather Interim Pavement Marking. Furnish marking materials that meet the following:

1. Color. Color specifications are the same as part A.
2. Composition. The exact composition is at the manufacturer's discretion but the vehicle must be100 percent acrylic polymer and the paint may not contain any ingredient in the vehicle listed below:
   Lead or chromate compounds; Mercury; Lead; Chromate compounds; Chlorinated solvents; Hydrolysable chlorine derivatives; Ethylene based glycerol ethers and their acetates.
3. Tests.

D-2486	Scrubs resistance, cycles, min	1000
D-1394	Titanium Dioxide	1.0 lb/gal White 0.15 lbs/gal Yellow

714.05 REFLECTIVE GLASS BEADS Page 467 3-1-07

Delete "20 percent" in part B of Subsection 714.05 and replace with "25 percent".

714.05 REFLECTIVE GLASS BEADS Page 468 2-10-11

Rescind Table 714-2 and replace with the following Table:

TABLE 714-2

REFLECTIVE GLASS BEAD GRADATION

SIEVE NUMBER	PERCENT PASSING	
	MONTANA TYPE 1	MONTANA TYPE 2
20 (0.850 mm)	97-100	90-97
30 (0.600 mm)	75-95	50-75
40 (0.425 mm)	------	15-45
50 (0.300 mm)	15-35	0-15
80 (0.180 mm)	------	0-5
100 (0.150 mm)	**0-5**	**------**

714.08(B) MATERIALS (Epoxy Pavement Marking Material) Page 471 7-3-08

Rescind the third sentence in Number 1. General (That begins with “Mix the components….”) and replace with the following:

Mix the components within plus or minus 2.0 percent of the manufacturer’s recommended mix ratio.

Rescind Table 714-5 Resin / Pigment Component (% By Weight) and replace with the following:

TABLE 714-5
RESIN / PIGMENT COMPONENT (% BY WEIGHT)

PIGMENT	WHITE	YELLOW
TiO2, meeting ASTM D-476, Type II	18-28	12-17
Organic Yellow		7-9
Epoxy Resin	72-82	74-81

715.01 SIGNS AND CHANNELIZING DEVICES Page 475 4-8-10

Rescind Subsection 715.01 and replace with the following:

715.01 SIGNS AND CHANNELIZING DEVICES

Meet the Detailed Drawings and MUTCD requirements. Adjust signs within specified distances to prevent obstruction from or to existing signs.

Mount signs so they are vertical and stable. Posts must not extend more than two feet above the top of signs.

Construction signs may be horizontally hinged at the midpoint of the sign face provided the hinge gap does not exceed 1/2-inch (13 mm) and the sign legend is legible.

715.02 PORTABLE SIGN SUPPORT ASSEMBLIES Page 475 4-8-10

Rescind Subsection 715.02(A) and replace with the following:

A. Use wood members with a maximum 16 square inch (10,325 square mm) cross section for base construction and 8 square inch (5,160 square mm) cross section for uprights and braces. Provide wood members that are free of bark.

Rescind Subsection 715.02(B) and replace with the following:

B. Use tubular metal members with a maximum 9 square inch (5,805 square mm) cross section.

715.05 ADVANCE FLAGGER AHEAD WARNING SIGNS Page 475 9-9-10

Rescind and replace Subsection 715.05 with the following:

715.05 ADVANCE FLAGGER AHEAD WARNING SIGNS

Equip the W20-7a (advance flagger ahead) sign to meet one of the following:

A. Furnish signs equipped with:

- Two 12-inch (305 mm) amber signals, each mounted 36 inches (915 mm) from the center of the sign panel on a line 45 degrees above horizontal.
- Equip each lens with a 22-inch x 22-inch (560 x 560 mm) square backplate with a dull black finish and a 12-inch (305 mm) cut-away tunnel visor.
- Use 116-watt traffic signal light bulbs.
- Furnish115/120 V.A.C. electrical current to the flasher unit.
- Set signals to flash alternately and continuously at a rate of 50 to 60 times per minute. The illuminated period of each flash must be not less than one-half nor more than two-thirds of the total flash cycle.

B. Furnish sign equipped with:

- Eight high-power, 1 watt, amber Light Emitting Diodes (LEDs) on the face of the W20-7a.
- Mount a LED in each corner of the sign with an additional LED spaced equally between the corners.
- Mount the LEDs one inch from the outside edge of the sign panel.
- Wire all LEDs in a string to activate simultaneously with a flashing output of 50 to 60 times per minute with a 100 to 500 millisecond flash duration.
- Power the LEDs using a solar panel, battery power, or combination of these.

Meet Subsection 715.02 requirements for mounting portable sign support assemblies.